

A Narrative Review of Adolescents' Knowledge, Attitudes and Utilisation of Contraception in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam



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Abstract

An estimated 25 million unsafe abortions have taken place around the globe in 2019, and nearly 4 million of these are adolescents aged 15–19. Similarly, in the countries under study: Cambodia, Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand and Vietnam still experience high adolescent birth rates and unplanned pregnancies, the leading cause of abortion. Furthermore, adolescents also encounter challenges in obtaining contraceptives and seeking advice. Due to the increasing size of the adolescent populations in the countries under study, attention is needed to understand their health and wellbeing, particularly their sexual reproductive health experience. Thus, it is essential to explore adolescent knowledge, attitudes, and contraceptive use in the selected countries, which could help to identify the gaps in accessing health-related information.

This study aims to review the literature related to knowledge, attitudes and utilisation of contraception, and the factors influencing the use of contraception and family planning services among adolescents in the five countries under study. A narrative literature review was utilised. The study systematically searched for eligible articles by using health-related databases: PubMed, MEDLINE, EMBASE, PsycINFO, and CINAHL. To avoid missing unpublished papers, a manual search was carried by using key terms in the Google Scholar website, and the thesis and dissertation repository. The results of this literature search brought sixteen eligible publications.

The findings indicate that adolescents' knowledge of contraceptive methods in the focused countries was below average, even though their awareness was generally high. Lack of sex education was one reason for not having comprehensive knowledge. Adolescents mostly had negative attitudes toward contraceptives, particularly hormonal methods. This was because many adolescents had myths and misinformation about contraceptive side effects. The use of contraceptives was found to be low and also dependent on the nature of the relationship with their partners. Overall, the study results show that having high awareness of contraceptive methods is not equivalent to high contraceptive utilisation. The contributing factors for using or not using contraceptives were personal beliefs, interpersonal communication, societal influence, and perceptions towards contraceptive products. In conclusion, the policymakers and governments of the selected countries need to consider revising the sex education curriculum and to ensure that it is available nationwide, whilst also ensuring that youth-friendly health clinics are accessible for all adolescents without cultural, financial and geographical barriers.

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Glossary

Concepts	Description
Abortion	Abortion is a termination of the foetus from the uterus before it can develop into the stage of viability in human beings (Abortion, n.d.). For the purpose of this study, abortion is defined as the deliberate termination of a pregnancy or induced abortion, regardless of the stage of pregnancy.
Adolescent pregnancy	Adolescent or teenage pregnancy is defined as pregnancy occurring among girls aged 10 - 19 (World Health Organization, 2004). For consistency, the term adolescent pregnancy will be used in this thesis.
Adolescents, youth, and young people	Adolescents are individuals who are 10 to 19 years old (World Health Organization, 2020a). Those aged 15 to 24 are categorised as 'youth'. There is an overlap between these two age groups, which might be confusing, because any between the age of 10 to 24 years are called 'young people' (World Health Organization, 2020a).
Birth rate	The frequency of live births in a specific population measured annually as live births per 1,000 mean population (Birth rate, n.d.).
Comprehensive sexuality education	A curriculum-based education regarding the cognitive, emotional, physical and social components of sexuality which aims to empower young people to realize their health, welfare and rights along with helping them to foster respectful social and sexual relationships. (UNICEF, 2019).
Consent	In this thesis, consent refers to "sexual consent" which is defined as "an agreement to participate in sexual activity by someone with the capacity and in the absence of coercion or force" (University of Canterbury, 2020).
Contraception	Contraception or birth control, is widely regarded as a method used in family planning (World Health Organization, 2019b)
Family planning	Family planning can be considered as services providing educational, health and/or medical advice helping individuals independently to decide the number of their children and the spacing of their pregnancies as needed (World Health Organization, 2020c).
Fertility	The International Committee for Monitoring Assisted Reproductive Technologies (ICMART) has agreed on the term "fertility" as "the capacity to establish a clinical pregnancy" (Zegers-Hochschild, et al., 2017)
Modern Contraception	Modern contraception includes condoms, sterilisation, intra-uterine devices (IUD), implant, injectables, contraceptive pills (including emergency contraceptive pills), diaphragm, cervical cap, spermicides methods, contraceptive patch, vaginal ring and lactational amenorrhea method (LAM (United Nations, Department of Economic and Social Affairs, Population Division, 2019c)
Modern contraceptive prevalence rate (mCPR)	The proportion of women aged 15-49 who currently use a modern contraceptive method (or whose partners are using it) (PMA, 2021)

Total Fertility Rate (TFR)	The estimated number of births a woman would have throughout her fertility period, which is expressed as the number of children per woman (United Nations, Department of Economic and Social Affairs, Population Division, 2019a).
Traditional Contraception	Traditional contraception includes early withdrawal and rhythm such as fertility awareness methods and periodic abstinence (United Nations, Department of Economic and Social Affairs, Population Division, 2019c)
Unintended pregnancy	This term is also known as unwanted, unplanned, unexpected, or mistimed pregnancy (Santelli, et al., 2003).
Unmet needs in family planning	Unmet needs in this context refers to fertile women who wish to increase their birth intervals or do not want to have any more children and are not using any contraceptive method (World Health Organization, 2011)
Unsafe abortion	The World Health Organization (2011) defines unsafe abortion as “a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards or both”.

Abbreviations

COC	Combined oral contraceptive
ECP	Emergency contraceptive pills
FGD	Focus group discussion
FP	Family planning
FP2020	Family Planning 2020
GDP	Gross domestic product
GNI	Gross national income
HDI	Human development index
HIV/AIDS	Human immunodeficiency virus/Acquired immune deficiency syndrome
ICPD	International Conference on Population and Development
IUD	Intrauterine device
KAP	Knowledge-awareness-practice
LAM	Lactational amenorrhea method
LARC	Long-acting reversible contraception
Lao PDR	Lao People's Democratic Republic
mCPR	Modern contraceptive prevalence rate
MDGs	Millennium Development Goals
MMR	Maternal mortality ratio
MOH	Ministry of Health
MoPH	Ministry of Public Health
POA	Programme of Action
POP	Progestin-only pills
SARC	Short-acting reversible contraception
SDGs	Sustainable Development Goals
SRH	Sexual reproductive health
STI	Sexually transmitted infections
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Chapter 1 Introduction

1.1 Problems and Rationale

Adolescent pregnancy¹ poses significant public health concerns worldwide. Nearly half of these pregnancies are unplanned, and half of those unplanned end in induced abortions (Darroch, Woog, Bankole, & Ashford, 2016). Globally, the fertility rate amongst adolescent girls has been consistently falling from 56 per 1,000 adolescent girls in 2000 to 44 per 1,000 in 2019 (World Health Organization, 2020b). Despite the downward trend, mainland Southeast Asian countries still confront issues with the highest adolescent birth rates, particularly in three of the selected countries for this study: Lao PDR (94/1,000), Cambodia (57/1,000), Thailand (50/1,000) (UNESCO, 2018).

Adolescents are individuals who are 10 to 19 years old, while those aged 15 to 24 are categorised as 'youth' (World Health Organization, 2020a). There is an overlapping age between these two groups that might be confusing because any people between 10 and 24 years old are called 'young people' (World Health Organization, 2020a). Adolescents are also categorised into three stages: early adolescence (10–13 years), mid-adolescence (14-16 years old) and late adolescence (17–19 years) (World Health Organization, 2010). In this thesis, adolescents at all stages will be included in the study.

The World Health Organization (WHO) (2019) reported that an estimated 25 million unsafe abortions took place annually worldwide. Nearly all of these occurred in developing regions, particularly Asia, where it is estimated that more than half of the unsafe abortions² occurred (World Health Organization, 2019b). Nearly four million unsafe abortions were among adolescents aged 15–19 years (World Health Organization, 2020b). In addition, this group is more likely to experience systemic infections, sepsis, and haemorrhage from unsafe abortion (Gerdtz, Dobkin, Foster, & Schwarz, 2016; Haddad & Nour, 2009) and has a higher risk of eclampsia of pregnancy and puerperal endometritis than adult mothers (Ganchimeg, et al., 2014).

¹ Adolescent or teenage pregnancy is defined as the pregnancy occurring among girls aged 10 - 19 (World Health Organization, 2004)

² The World Health Organization (2011) defines unsafe abortion as "a procedure for terminating an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards or both".

Despite having a desire to access quality health facilities, it is not always possible for adolescents (UNFPA, UNESCO, & WHO, 2015). This study involves five Southeast Asian countries (Cambodia, Lao PDR, Myanmar, Thailand and Vietnam). In the countries under study, Lao PDR, Myanmar, Thailand, abortion is legally restricted and approval from parents or spouses is also required (UNFPA, UNESCO, & WHO, 2015). In a place where contraception and safe abortion is inaccessible, unsafe abortion rate is higher (World Health Organization, 2019b). With the impediment of accessing a safer facility by regulation, those carrying unintended pregnancies would likely undergo a clandestine unsafe abortion and risk negative health consequences.

Generally, those carrying an unintended adolescent pregnancy to term and raising the baby are also at risk of socio-economic disadvantages in their adulthood because they likely drop out of school, which in turn affects their earning potential, leading them to rely on social welfare (Olausson, Haglund, Weitoft, & Cnattingius, 2001; Briggs, Brownell, & Roos, 2007). Adolescent childbearing is linked with lower educational achievement and adolescent parents could pass a cycle of poverty from one generation to the next (Darroch, Woog, Bankole, & Ashford, 2016). Considering that, family planning and contraception needs to be promoted to prevent such incidents and to enhance individuals' sexual and reproductive health and their socio-economic welfare. To add to the importance of this issue, in the United Nations Sustainable Development Goals, maternal and child health, sexual reproductive health, and family planning all fall under the third goal, particularly the indicator 3.7 (see Figure 13) proposing: "By 2030, ensure universal access to sexual and reproductive health-care services, including family planning, information and education, and the integration of reproductive health into national strategies and programmes" (United Nations, 2020, para. 14).

However, obtaining valid and reputable information about sexual reproductive health and family planning can be challenging in a digital age. Nikkelen, Oosten and Borne (2020) reported that presently young people seek sexual health advice over the internet because it is easier and quicker than visiting health facilities. This ensures anonymity as well. However, the sources of information may be too technical for a general audience, particularly adolescents with limited education, who could misinterpret the information (Nikkelen, Oosten, & Borne, 2020). As a result, they may have misconceptions and lack of knowledge about contraception and sexual and reproductive health. If these challenges could be overcome by successful management of family planning and distribution of accurate information to adolescents, this could lower the number of unintended pregnancies, which ultimately can prevent induced or unsafe abortions.

Academic communities have conducted research on the importance of contraception and family planning around the globe. However, a detailed review of the relevant literature regarding knowledge, attitudes, and utilisation of contraceptive use has not been conducted in Cambodia, Laos, Myanmar, Thailand, or Vietnam to collate the existing information and extensively explore the social, behavioural and cultural implications within adolescent sexual reproductive health results. Therefore, this review is crucial as it may identify the gaps in accessing health-related information and offer ways to improve communication between health providers and adolescents in the countries under study.

1.2 The Significance of Adolescent Sexual Reproductive Health

As of 2019, the worldwide adolescent population was 1.2 billion, which accounts for 16% of the world population, of whom 350 million (about 22%) are adolescents in the South- East Asia Region (World Health Organization, 2020b). The percentage of adolescents aged 10 – 19 in the five countries (Cambodia, Laos, Myanmar, Thailand, and Vietnam), under study demographically constitute a significant demographic number of the population, making up nearly a quarter of their total population (United Nations, Department of Economic and Social Affairs, Population Division, 2019b). In 2015, an estimated 6.3 million out of 1.2 billion adolescents died from ill health and injury worldwide. Over 26% of these deaths occurred in the South-East Asia Region (World Health Organization, 2018b). Considering that adolescents make up a large proportion of the world's population, and the figure is projected to increase steadily, it is crucial to pay more attention to their health and wellbeing. Indeed, maximising adolescent development is essential for reaping the benefits from a demographic dividend where the working population is higher than children and seniors (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). In this thesis, the focus is placed on adolescent sexual reproductive health, which is very likely to impact on their knowledge, attitudes, and utilisation of family planning and contraception.

Adolescence is a developmental period denoted by critical transitions biologically and psychologically. Indeed, it is a period of rapid physical, mental, emotional, and cognitive development, as well as puberty and sexual reproductive maturation (World Health Organization, 2014). The adolescent years are a prime time to develop sexual reproductive health literacy and information processing, to be responsible for their health, and to cultivate healthy behaviours and practices (United Nations Population Fund, 2016). However, the transition phase from childhood to adulthood involves dramatic changes that may put their health at risk (World Health Organization, 2020b). Adolescents are at greater risk of sexual and reproductive health consequences which include, but are not limited to sexually transmitted infections and unintended pregnancy (Dillon, 2014). These are attributable to high

rates of unsafe sexual activity, for instance, inconsistent condom use and having multiple sexual partners (UNFPA, UNESCO, & WHO, 2015).

Access to free and responsible contraception is the key for adolescents to exercise their right to sexual and reproductive choices. Ordinarily, social norms have been recognised as a hindrance to young people seeking sexual reproductive health advice and there are limited numbers of youth-friendly service centres. Despite the availability of contraception and family planning services, adolescents might still face more barriers than adults in accessing the services due to dependence on parents, and restrictive laws and policies (United Nations Population Fund, 2016). Therefore, it is crucial to address adolescents' needs to promote their health today and throughout their lifespan. In essence, healthy adolescents can later contribute to a healthier future workforce.

1.3 Knowledge, Attitudes, and Practices Model

The Knowledge, Attitude and Practices (KAP) model is a quantitative survey method examining health behaviour in a specific population (SPRING, 2011). Data collection from a KAP survey is conducted by interviewing using a predefined, standardised questionnaire (World Health Organization, 2008; Goutille, 2009). KAP data could be the groundwork for planning, implementing and evaluating the program, as it provides quantitative information while also uncovering misconceptions about particular health behaviours that exist in the specified population (SPRING, 2011; Goutille, 2009). In this light, the KAP approach may facilitate policy formation, program decisions, and action (World Health Organization, 2008). Additionally, the KAP approach may provide information regarding factors contributing to the knowledge of the studied population, and the reasons behind their attitudes and practice (World Health Organization, 2008). In the extended feature of a KAP survey, it can:

- generate new information and assess knowledge, attitudes and practices of representative populations regarding their topics of interest and prove or disprove an assumption (SPRING, 2011; Goutille, 2009).
- establish baseline information to use as a point of reference in future evaluation measuring program effectiveness, communication process and program impacts on behavioural changes (SPRING, 2011; World Health Organization, 2008).
- give a richer understanding of what is commonly known and done (knowledge and awareness), attitudes and potential socio-cultural or socio-economic factors that might influence the present belief and practices (SPRING, 2011; Goutille, 2009; World Health Organization, 2008). On this account, the KAP approach can pinpoint the gaps in knowledge, patterns of behaviours and cultural beliefs that may reveal the resolutions to program needs (World Health Organization, 2008).

- provide recommendations for intervention plans and strategies that are suitable and culturally appropriate for a certain situation or group of people (SPRING, 2011);
- facilitate in evaluating program activities and help to set priorities in decision-making (Goutille, 2009; World Health Organization, 2008).

Knowledge means detailed information gathered from reliable sources regarded as facts (Trevethan, 2017). Awareness is generally referred to as being knowledgeable and conscious about activities, objects and events (Gafoor, 2012). According to Trevethan (2017), these two words refer to general information and views that individuals hold and display, for instance, individuals' knowledge and awareness of health. In some manuscripts, they may refer awareness as being similar to knowledge (Trevethan, 2017). An attitude is a state of evaluating an object within the spectrum of positive or negative feelings toward something or someone (Lavrakas, 2008). The meaning of the term practice can differ depending on the context. In this thesis, the term is used to refer to the way of doing something habitually (Collins Dictionary, 2021). The KAP model (SPRING, 2011; Goutille, 2009; World Health Organization, 2008) has been adapted for use as a guide for this review and was modified to include Utilisation as shown in Figure 1.

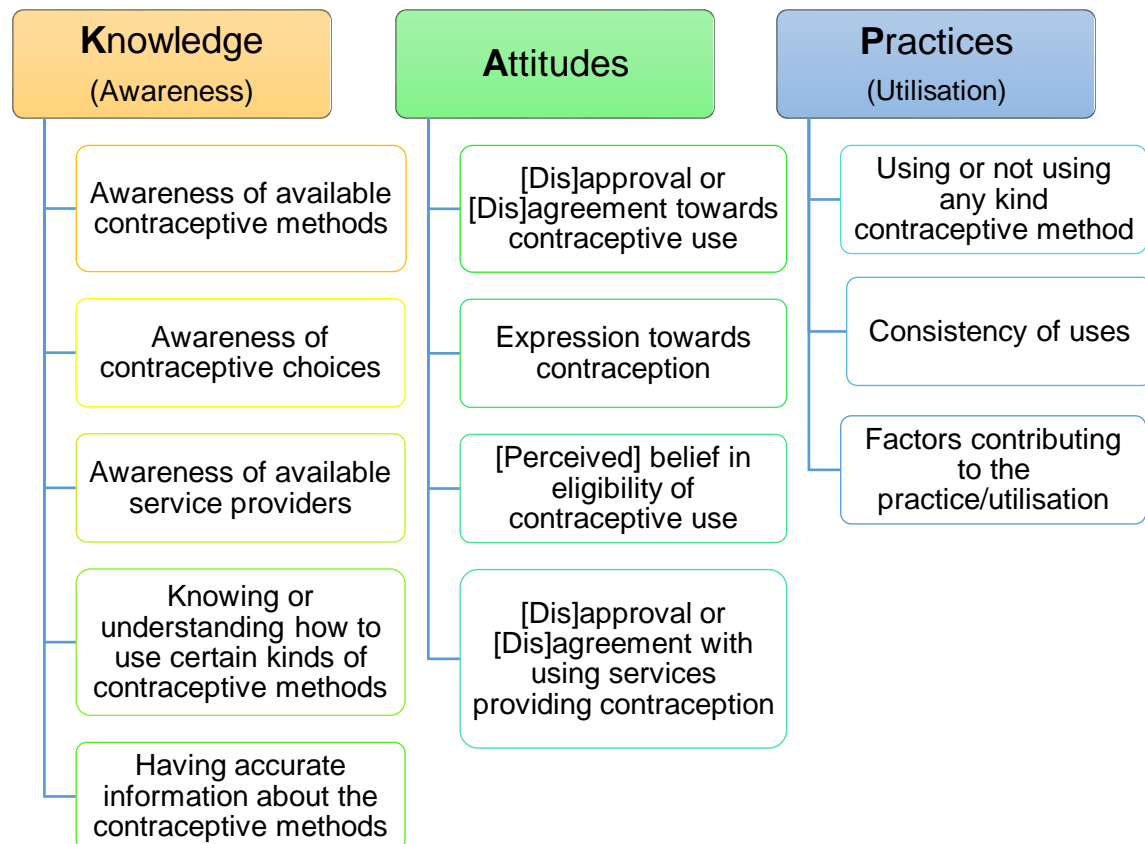


Figure 1 Adaptation of Knowledge, Attitudes and Practice Model in Contraception

1.4 Aims and Objectives

Conducting a narrative review covering different countries is a daunting process because this is a description in narrative format of the results from each country, linking social, economic, cultural, political, and demographic factors between them. The study primarily aims to review literature related to the current adolescents' knowledge, attitudes, and use of contraception in five Mainland Southeast Asian countries (Cambodia, Lao's People Democratic Republic, Myanmar, Thailand, and Vietnam). To meet the objectives, the review aims to answer the following questions:

- What are the knowledge, attitudes and utilisation of contraception amongst adolescents in the five countries reviewed?
- What are the factors and barriers in accessing contraception or family planning and sexual reproductive health services adolescents experience in the focused countries?

By conducting this comprehensive review, insights would be gained into adolescents' values, perspectives, and beliefs, the underlying factors that influence their behaviours and decisions regarding contraceptive use were identified and explored. The findings would provide the information that may be useful for any professionals working in public health, or any other discipline, to make positive changes in both public health in general, and family planning in particular. However, it is important to note that the review has no intention to serve as a protocol or intervention guidelines for family planning or for a sexual reproductive health programme in the countries under study. There are also potentials for policymakers or relevant professionals to use these findings to develop culturally appropriate, youth-friendly strategies to enhance contraception or family planning use and sexual reproductive health services among adolescents in the selected countries.

1.5 Thesis Organisation

This thesis is divided into seven chapters. This chapter (**Chapter 1**) introduces the topic: the importance of adolescents, with a focus on their sexual reproductive health. It also provides a rationale for the study, together with the aims and objectives, as well as the Knowledge, Attitudes and Practice (KAP) survey model.

Chapter 2 provides the research methodology, which includes, search strategy or engines, a selection of the included publications or papers, and search results which were summarised into table format. The chapter also discusses the rationale for using a narrative literature review approach.

Chapter 3 introduces comprehensive information about the focused countries: Cambodia, Lao PDR, Myanmar, Thailand and Vietnam, which provide the context for the review. It includes geographic, demographic, economic, and socio-cultural information, as well as education, health and the legality of abortion.

Chapter 4 conceptualises contraception and family planning program and describes the terms “family planning” and “sexual reproductive health”. It also provides background and history of family planning programs, and their linkage to sexual reproductive health, as well as the significant role of family planning in public health.

Chapter 5 explores the current reproductive and contraceptive trends and other adolescent sexual reproductive health issues in the selected countries. It also highlights family planning background of the focused countries and the key strategic plans to promote sexual reproductive health.

Chapter 6 presents the research findings on the knowledge, attitudes and utilisation of contraception amongst adolescents in the focused countries. Factors contributing to contraceptive use and non-use, as well as contributors to accessing sexual reproductive health service amongst the participants are also presented.

Chapter 7 discusses the findings from the previous chapter, reviews relevant published literature, highlights study limitations, reiterates the issues and significance of adolescent sexual reproductive health and draws conclusions and recommendations for future research.

In this thesis, even though abbreviation and glossary of terms are provided, footnotes are used to define terms and concepts for convenience purpose.

Chapter 2 Methodology

2.1 A Narrative Literature Review

A literature review is considered as a significant educational resource to inform current guidelines for practitioners in a specific study area, as it condenses a pool of relevant information into a concise and reader-friendly format (Cronin, Ryan, & Coughlan, 2008; Green, Johnson, & Adams, 2001). A review of literature also acts as evidence to formulate policies and approaches for evidence-based care, as well as a part of the research process and academic evaluation (Green, Johnson, & Adams, 2001). The methodology utilised in this research is a narrative literature review, also known as a traditional review, which is a thorough synthesis of information or topics that have already been investigated (Collins & Fauser, 2005; Cronin, Ryan, & Coughlan, 2008; Paré, Trudel, Jaana, & Kitsiou, 2015). A narrative literature review aims to inform audiences with a comprehensive background and updated information on subjects of interest as well as identify possible gaps in the literature. The review enables audiences who are occupied with their professional duty to be well informed and keep track of a variety of recent publications and research innovation in a less time-consuming manner (Baumeister & Leary, 1997; Aveyard, 2019). Thereby, it can also stimulate researchers to identify new research ideas, questions and theories as well as a means for grant proposal and reference for educators (Baumeister & Leary, 1997; Cronin, Ryan, & Coughlan, 2008).

Generally, a narrative review gathers a large quantity of information relevant to the area of study to describe the findings of articles and combine the summaries into an independent document (for instance, this thesis) in a concise and structured format (Aveyard, 2019; Cronin, Ryan, & Coughlan, 2008; Green, Johnson, & Adams, 2001). Compared to a systematic review, a narrative review has a broader focus which is more comprehensive in nature as it involves multi-methods of research that offer a more comprehensive picture of the studies. This a narrative review provides an opportunity to critically review a topic with less constraints placed on inclusion criteria. Whilst being opportunistic with regards to a broader range of research topics, a narrative review may not always be an appropriate option in all situations. Such a narrative review does not typically disclose any explanation of how the review and decision-making processes were carried out, which may attract criticism (Collins & Fauser, 2005; Paré, Trudel, Jaana, & Kitsiou, 2015). Its principal shortcoming is the lack of specific criteria for inclusion and exclusion as well as a clearly defined synthesis procedure (Grant & Booth, 2009). This means reviewers may select topics that support their argument, causing bias in the study. In some cases, the methodology used in such reviews is not apparent to the reader, and thus the results presented may veer towards a subjective stance (Collins & Fauser, 2005; Cronin, Ryan, & Coughlan, 2008; Paré, Trudel, Jaana, & Kitsiou, 2015).

It is worthwhile mentioning that the standardised approach of a systematic review could become a limitation for some topics. As a systematic review is a predetermined approach, the chosen topic is narrowly focussed and, in turn, it limits a thorough coverage (Collins & Fauser, 2005). For this thesis: the phenomenon of adolescent knowledge, attitudes and utilisation of contraception in the selected countries, writing a systematic review might be considered inappropriate. It would restrict the research to certain types of study and thus prevent a broader range of articles from being included (Collins & Fauser, 2005).

Review articles have been a vital part of research methods for summarising and synthesising previous works and research findings to present evidence for practice in many applied science disciplines (Paré, Trudel, Jaana, & Kitsiou, 2015). Whether a review is carried out systematically or narratively, it provides valuable information to keep practitioners updated with research. In conclusion, as the aim of this review is to be as comprehensive as possible, a narrative review provides the broadest examination of the topic thus matching the study objectives.

2.2 Search Strategy

Whilst the review followed a narrative approach, a systematic search strategy was utilised to identify articles matching the inclusion criteria. This approach minimised the bias in publication selections and any possible missed opportunities to source valuable literature, including unpublished or grey literature. To begin with, an electronic literature search was conducted from September to October 2020, using the following health-related databases: PubMed, MEDLINE, EMBASE, PsycINFO, and CINAHL. These databases were selected because the publications cover not only clinical or medical topics, but also those connected with public health, social science, and nursing. The following search terms were used and entered into the search boxes: [family planning or contracept* or contraceptive method of contraception or birth control] AND [knowledge or attitude* or utilisation or utilisation or practice or perspective* or perception* or belief* or view* or feeling* or experience] AND [adolescen* or teen* or young people or young adults or youth] AND [Cambodia or Lao* or Lao PDR or Myanmar or Burma or Thai* or Vietnam]. Additionally, the researcher sourced grey literature from the reference lists of publications and by manually entering key themes and topics into Google's search engine.

In addition to the electronic searches mentioned above, information about each country was collected via a focused internet search; Demographic Health Survey website; official websites from each country (for instance., the Ministry of Health in Cambodia, Vietnam, Myanmar and Lao PDR and the Ministry of Public Health in Thailand); and the reports of development partners (UN, WHO, UNFPA, UNICEF, UNDP, UNESCO, World Bank, Asian

Development Bank). The reasons for searching multiple websites and databases were to obtain characteristics from countries' contexts, such as geography, demography, socioeconomics, education, and health. These contexts helped the researcher explore contributions to adolescent sexual reproductive health and the knowledge, attitudes, and utilisation of family planning. Following the same approach, a general understanding of family planning and adolescent sexual reproductive health in a global and regional context was also gained. The researcher identified reports from websites, newspapers, commentaries. These provided deeper insights about each of the selected countries.

2.3 Study Selection

The article topics were selected to explore the knowledge of, attitudes towards, utilisation or practices of, experience of, perspectives of and barriers to contraceptive use of family planning amongst adolescents in five countries: Cambodia, Lao PDR, Myanmar, Thailand and Vietnam. There was no limitation on the sites of the study (for instance, school, university, primary health care centre, community). Whilst the focused study populations were adolescents aged 10 – 19 regardless of their marital status, for some studies the age of the participants were expanded to 24 years. The period of the literature included is from 2005 to 2020. The extended time frame allowed the researcher to explore and compare eventual trends and patterns in contraceptive use among adolescents in the selected countries. Only publications in English were included in this research. Qualitative, quantitative and mixed method designs were incorporated to acquire broader perceptions. The study design for quantitative research included, but was not limited to, randomised control trials, cross-sectional studies, case studies, and survey studies. Qualitative study designs included, but was not limited to, phenomenological analysis, thematic analysis, grounded theory, ethnography, and action research.

Table 1 Criteria for Inclusion of the Study Under the Review

Inclusion criteria	Exclusion criteria
The study conducted in Cambodia, Laos, Myanmar, Thailand and Vietnam	The study outside these five countries
Adolescents aged 10-19 years and the study conducted in the group aged 15-24 years	The study conducted with individuals younger than 10 years old and older than 24 years
English language	Study in other languages
Articles studied on knowledge, attitude and utilisation	Articles that do not study on knowledge, attitude and utilisation
Publication from 2005 to 2020	Publication before 2005
All types of study design were included	N/A

2.4 Search Results

The publications found were screened and assessed against the inclusion criteria. The search of PubMed, MEDLINE, EMBASE, PsycINFO, and CINAHL offered a total number of 529 publications. The researcher screened and removed the articles that were published before 2005 (243) or duplicated (138), which resulted in a total of 148 articles to be thoroughly screened against the predetermined criteria.

After screening the full text for eligible publications, 139 articles were excluded, resulting in only nine publications from these five search engines being eligible. The reasons for the exclusions were as follows:

- 26 did not target the countries of study.
- 14 publications focused on evaluating intervention and program quality for increasing contraceptive uptake, which was not the topic of interest.
- Six were not targeted at adolescents or young people, or they exclusively targeted married individuals; and
- 93 were irrelevant to knowledge, attitude and utilisation/practice, or they targeted other sexual reproductive health topics, for instance, topics pertinent to abortions, STI/HIV, parent-child communications in sexual health, maternal health, unintended pregnancy, premarital sex, et cetera.

To avoid missing any other valuable literature published elsewhere, including grey literature, the researcher attempted to locate articles from reference lists, thesis depositories in international universities, general search via the University of Canterbury Library portal, and Google Scholar. Through this process an additional seven pieces of literature were sourced. As a result, the total number of included studies came to 16 (see the systematic process of study selection in Figure 2)

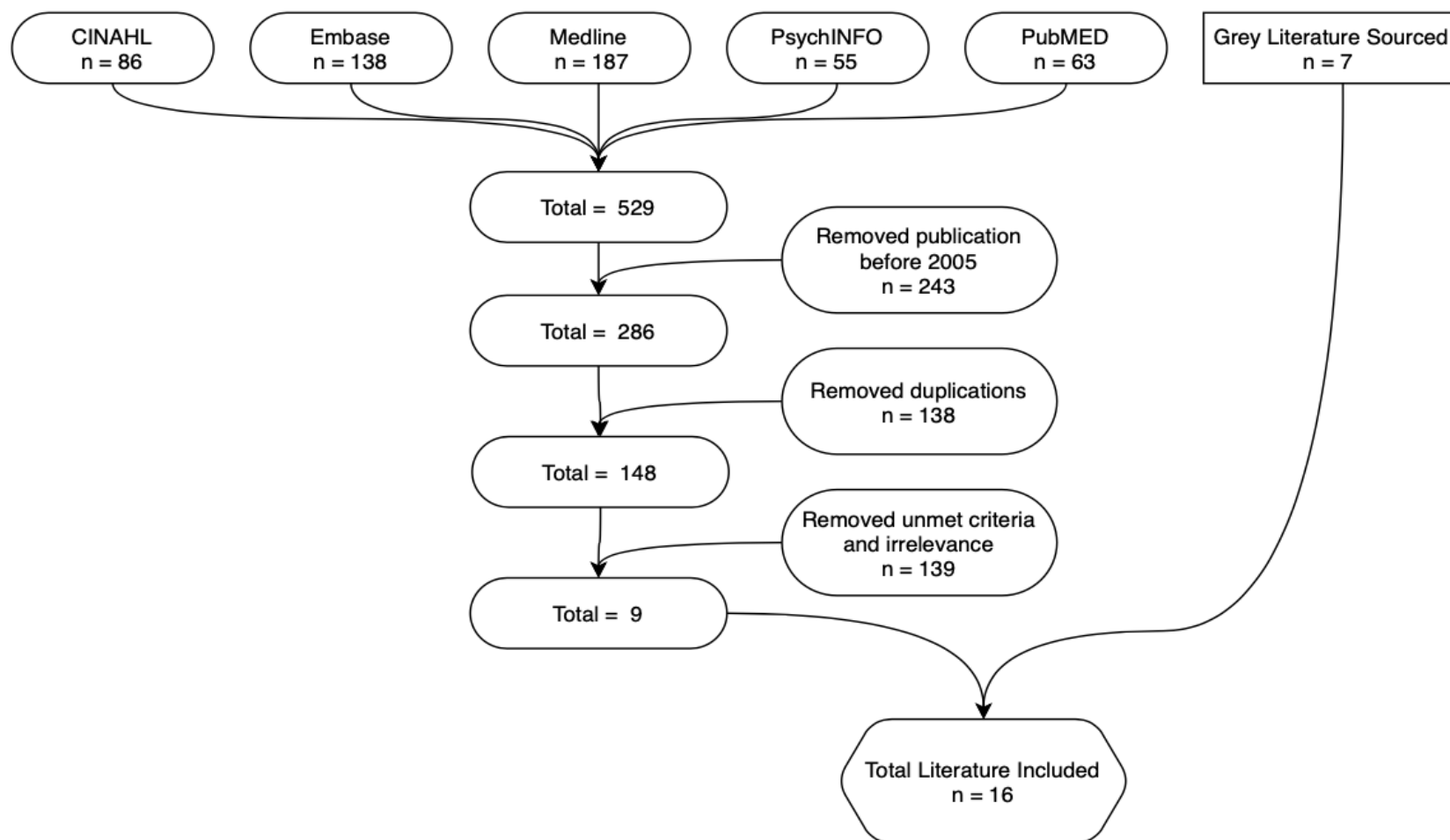


Figure 2 Process of Selecting Included Publications

The included literature was incorporated into a table (Table 2). The table was then categorised into seven main sections which were labelled as author information, titles, characteristic of participants, study location and settings, aims of the study, the methodology used in the study, and the key findings. Doing so helped the researcher to capture the character of the included studies in one dataset which would facilitate the process of analysis later. Then, all included publications were imported into the NVivo12 program. This program was used to explore the predetermined topics of interest around knowledge, attitudes, utilisation and practice of contraception among the adolescent participants. Throughout the process of coding, other repeated themes beyond the phenomenon of interests were also developed and interrogated.

The characteristics of the study results are illustrated in Table 2. Of sixteen included studies, two were from Cambodia; four were from Lao PDR; only one study was from Myanmar; four were from Thailand; and five were from Vietnam. Eight of the 16 studies used quantitative methods, which employed a self-administered questionnaire, whilst six studies used qualitative approaches, which included focused group discussion and in-depth interviews. Only two of the included studies used mixed methods. Out of the included studies, ten targeted participants aged 15 to 24 years. The others are aged 10-19, 15-30, and one study focused on people below the age of 25 years. All the included studies were mixed gender, apart from one male-only and one female-only article. Two articles specifically focused on adolescent mothers.

Table 2 Characteristic of the Included Studies

No.	Author(s)	Study site(s)	Title(s)	Aim(s)	Study participants / population	Study design/method	Key findings
1	Chaiboonruang (2018)	Thailand	Contraceptive Knowledge and Contraceptive Self-Efficacy of Thai Adolescent Mothers. [Doctoral Dissertation]	To assess the relationship between contraceptive knowledge and contraceptive self-efficacy of Thai adolescent postpartum mothers and to explore their perceptions, feelings, attitudes, and experiences regarding contraception	170 Postpartum adolescent mothers aged 15-19 years	A mixed-method study	All participants had a positive attitude toward contraception and agreed that it is useful, mostly when they wanted to space their pregnancies. Several participants lacked self-efficacy in deciding contraceptive methods. Their decisions depended on their partner's permission, family members' advice, and some cited health care providers. The most significant concern about contraceptive use was misconceptions about contraceptive methods. There were no conclusive choices of methods amongst the participants as they were unsure about their situations and future relationships.
2	Chanthasukh (2018)	Thailand	Decision Making and Contraception: Perceptions and Experiences Of Thai-Isan Adolescents. [Doctoral Dissertation]	To increase understanding about how unmarried, sexually active Thai adolescents make decisions about contraception	38 adolescents aged 15 - 19 years	A qualitative method using in-depth interviews and focus group discussions	Most participants had a good awareness of different types of modern contraception. Still, condoms, withdrawal methods and hormonal pills (either the pills or ECPs) were the most mentioned in this study. A contraceptive decision was made during four main situations: before initiating an intimate relationship; just before each sexual encounter; after having an abortion; and no decision at all when both parties were drunk. Factors influencing contraceptive use included fear of adverse consequences from unintended pregnancy. Having a basic knowledge of how to use the methods also encouraged the participants to use them more frequently. However, as an adolescent without earnings, some participants stated that they also have to consider their financial situation before buying condoms.

3	Douthwaite and Saroun (2006)	Cambodia	Sexual behaviour and condom use among unmarried young men in Cambodia	To describe the sexual behaviour of young unmarried men, and explore factors associated with condom use at last intercourse	665 unmarried male adolescents aged 15–24 years	A cross-sectional survey	Condoms were less likely used for sexual activities with female friends or girlfriends than with commercial sex workers. Male peers influenced the decision to visit brothels or entertainment venues. They also had impacts on consistent condom use. The finding showed that when the respondents visit the brothel alone, the reported use of a condom in transactional sex was only 57.9%, compared to the time they visited the venue with their male peers, when condom use was significantly higher (91.7%)
4	Hoang, Nguyen and Duong (2018)	Vietnam	Youth Experiences In Accessing Sexual Healthcare Services In Vietnam	To provide an in-depth account of young people's experiences in accessing sexual health services	130 individuals aged 18-24 years	A qualitative method using in-depth interviews	Participants had little knowledge of any other contraceptive methods beyond condoms, emergency contraception and the pill. They also reported low contraceptive use, which is partly attributed to misconceptions and fears they held. Just under one-fourth of female participants indicated that their partner was the primary decision-maker about contraceptive methods. In light of reproductive health service, interviewees felt discouraged and uncomfortable about visits because health providers lacked empathy and had poor bedside manner.
5	Lanjakornsiripan et al. (2015)	Thailand	Contraceptive Practices and Pregnancy Intendedness among Pregnant Adolescents	To assess contraceptive practices and pregnancy intendedness in pregnant adolescents	200 pregnant adolescents aged 15-19 years	A descriptive study using questionnaires and interview	Most participants were primigravidae (first pregnancy). More than two-thirds of them did not use contraception before the current pregnancy, and around the same proportion did not think they were likely to become pregnant. Additionally, two-third of participants stated that their pregnancies were unplanned, and more than one-third wanted an abortion.
6	Nguyen, Liamputton and Murphy (2006)	Vietnam	Knowledge of Contraceptives and Sexually Transmitted Diseases and Contraceptive Practices amongst Young People in	To examine knowledge of contraceptives and sexually transmitted diseases (STDs) and contraceptive practices amongst Vietnamese young people	16 young unmarried individuals aged 15-24 years	A qualitative method using in-depth interviews	Knowledge of condoms and pills was more frequently reported. Some participants did not mention traditional methods as contraceptive methods. Only a few participants were aware of IUDs, but they thought that the method were for a certain group. There were also confusing beliefs around sexual intercourse and fears toward contraceptive pills. Some women believed that they only need to take the pills when they actually had sex, and some thought that sperm

			Ho Chi Minh City, Vietnam				could not go inside the vagina in a sitting position. Many female participants had negative attitudes toward condoms, stating that they are disgusting, and they would feel uncomfortable if their partner always brings condoms with him.
7	Nguyen and Vo (2018)	Vietnam	Medical Students' Knowledge, Awareness, Perceptions, and Practice regarding Contraceptive Use in Vietnam.	To explore the knowledge, awareness, perceptions, and practice regarding contraceptive use among Vietnamese medical students	695 medical students, aged between 18-22	A cross-sectional study using a web-based questionnaire	All participants had heard of contraceptive methods, and most of them expressed positive attitudes toward contraception. Although most participants gave correct answers to different statements that were used to examine contraceptive knowledge, approximately 90% of them misunderstood that a woman must undergo a pelvic examination to get a prescription of birth control pills. Only a quarter of the participants had previously used contraception. This may be linked to indecision about buying condoms.
8	(Oung et al. (2019)	Myanmar	Sexual Experience and Contraceptive Use among Unmarried Adolescent University Students in Mandalay, Myanmar.	To investigate sexual behaviour and patterns of contraceptive use with different types of sexual partners among adolescent university students, and their reasons for using or not using contraception	850 university students aged 16-19 years	A cross-sectional descriptive study using self-administered questionnaires	Sexual experience began at approximately 17 years of age for girls and 15 years of age for boys. Most students who had engaged in sexual activity reported the use of some kind of contraception, namely, condom, emergency contraceptive pills and oral contraceptive pills. Those who did not use them reasoned that they did not know about contraceptive methods, feared side effects and did not know how to access these different types of contraceptives. The practice of contraceptive use was higher among students who had casual partners than those who had a regular partner (referring to someone with whom participants had an ongoing relationship, like a spouse, lover or boy/girlfriend)
9	Phongluxa et al. (2020)	Lao PDR	Factors Influencing Sexual and Reproductive Health among Adolescents in Lao PDR	To provide a comprehensive exploration of factors that influence sexual and reproductive health	84 adolescents aged 10-19 years and	A mixed-method cross-sectional study	More than half of adolescent participants knew or were aware of modern contraceptive methods. Condoms and the pill were the best known (60.2% and 51.5%, respectively). Still, there were misconceptions around contraceptive pills and condoms. Of those who were sexually active, only around one-third reported using some type of contraception.

				knowledge, attitudes, and practices of adolescents	critical informants		The most preferred methods were condoms, pills and withdrawal. The study also confirmed that knowledge and autonomy in their sexual life contributed to contraceptive use.
10	Samandari and O'Connell (2011)	Cambodia	"If we can endure, we continue": Understanding Differences between Users, Discontinuers, and Non-Users of Hormonal Contraceptive Methods in Pursat Province, Cambodia	To identify and understand misconceptions about, and perceived barriers to, contraceptive use in Cambodia; and to identify the unique characteristics of women who use contraceptives versus those who have discontinued use or have never used a modern method	84 young individuals grouped by types of user: continuers, discontinuers, and non-users. Mean age 23.7	A qualitative study using focus group discussions and in-depth interviews	Nearly all interviewees had good knowledge of modern methods and accepted that they are more valid than traditional methods. Nonetheless, there are negative perceptions toward hormonal contraceptives and myths about side effects. Condoms were not perceived as an appropriate alternative, as women reported stigma around condom use and its failure. Family members played crucial roles in propagating misconceptions leading to being scared or discouraged from using them (for non-users). The findings revealed that discontinuers who experienced common side effects from hormonal contraception ceased contraceptive use without consulting a provider while those who continued to use sought advice first. Those who continue also endured the side effects and dispelled the myths by resolving the issues with health providers and trust advice.
11	Sychareun, Hansana, Phengsavanh and Phongsavan (2013)	Lao PDR	Awareness and Attitudes towards Emergency Contraceptive Pills among Young People In the Entertainment Places, Vientiane City, Lao PDR	To investigate the awareness and attitudes of young people regarding emergency contraception and their willingness to use Emergency Contraceptive Pills (ECPs)	500 youth aged 15-30 years	A cross-sectional survey	Less than a quarter reported awareness of emergency contraceptive pills. Half of those who were aware heard the information from friends, the media and health personnel. Only around 18% knew the correct time frame for effective use of ECPs to prevent pregnancy, which is taking the first dose within 72 hours after having unprotected sex. Most participants had a positive attitude toward ECPs and agreed that they should be widely available in Lao PDR. Respondents believed that potential users would be teenagers, women of a reproductive-age, and any other women who have had unprotected sexual intercourse.

12	Tangmunkongvo rakul et al. (2017)	Thailand	"When I First Saw a Condom, I Was Frightened": A Qualitative Study of Sexual Behavior, Love and Life of Young Cross-Border Migrants In Urban Chiang Mai, Thailand	To describe young migrants' sexual and reproductive health behaviours, lifestyle, and awareness and use of youth-friendly services	84 young migrant workers aged 15-24 years	A qualitative study using focus group discussions	Young Myanmar migrants had insufficient knowledge of condoms and their usage, particularly female migrants who could not recognise the packaging of a condom. They were frightened when they first saw it. Respondents also had negative attitudes toward other contraceptive methods such as pills, implants and injectables. Respondents viewed these methods as "dangerous" or "scary", and they were afraid of side effects and infertility. Furthermore, respondents were not aware of the existence of youth-friendly health services as well as the eligibility to access them. This signified the urgency to promote sexual reproductive health services that tailor to young migrants' needs and ascertain their sexual reproductive rights.
13	Thongmixay et al. (2019)	Lao PDR	Perceived Barriers in Accessing Sexual and Reproductive Health Services for Youth In Lao People's Democratic Republic	To explore perceptions of barriers to the accessibility of sexual reproductive health services for youth and to stimulate evidence-informed decision-making in health policy formulation and implementation.	22 youth aged 15-24 years	A qualitative method using a semi-structured interview	Adolescents were aware of some forms of modern contraceptive methods and are aware of the risk of unintended pregnancy and STIs. However, they admitted that they do not use modern methods consistently and often used traditional methods such as early withdrawal and periodic abstinence. The reason for not using modern methods were not having contraception ready, being drunk, and surprisingly, they considered traditional methods as a safe alternative. The lack of youth-friendly health clinics and embarrassment hindered adolescents from accessing sexual reproductive health services.
14	Tran and Vo (2018)	Vietnam	Knowledge, Perceptions, and Attitudes toward Contraceptive Medicine among Undergraduate Students In Southern Vietnam	To examine the knowledge, attitudes, and perceptions of Vietnamese university students regarding various contraceptive methods	1,107 undergraduate students, approximately aged 18-22	A cross-sectional descriptive study using a self-administered questionnaire	All participants were aware of the different types of modern contraceptive methods. The media was the primary source of information. Most participants exhibited some knowledge about common contraceptive methods such as condoms, birth control pills and their side effects. Participants generally showed positive attitudes toward contraception, as they agreed that contraception could protect the health of family and society. However, some participants expressed

							negative attitudes toward the pill because of its unwanted side effects.
15	Vo, Tran and Tran (2018)	Vietnam	Birth Control Knowledge Among Pharmacy Undergraduate Students In Vietnam: A Case Study and Situation Analysis	To define the factors that contribute to the knowledge, awareness, perceptions, and practice of birth control among pharmacy students at Lac Hong University (LHU) in Dong Nai Province.	403 pharmacy undergraduate students, approximately aged 18-22	A cohort study using a self-administered questionnaire	All participants were aware of contraceptives. Most of them showed good knowledge of condom and contraceptive pills. Just over 40% of participants reported using contraception, and the most common method was a condom. Although other methods were mentioned, they were not used or rarely used. One-third of participants stated that fear of pregnancy was the main reason for using contraception.
16	Vongxay et al. (2019)	Lao PDR	Sexual and Reproductive Health Literacy of School Adolescents in Lao PDR	To measure the sexual and reproductive health literacy in adolescents attending school in Lao PDR	461 high school students, aged 15-19 years	A quantitative cross-sectional study	Adolescents in this study had inadequate sexual and reproductive health literacy. Attending schools in urban settings had a significantly positive influence on sexual and reproductive health literacy.

Chapter 3 Overview of the Selected Countries

This chapter provides a background of the five countries that are the focus of this research: *Cambodia*, *Lao People's Democratic Republic (Lao PDR)*, *Myanmar*, *Thailand*, and *Vietnam*, to illustrate the similarities and differences in the characteristics of each country. Information is categorised into the dominant clusters, namely, geographic, demographic, socio-economic, education and health, which are each described and compared. These countries together with China (Yunnan Province and Guangxi Zhuang Autonomous Region) have initiated a programme of sub-regional economic cooperation which is called the Greater Mekong Sub-region (GMS), to enhance economic relations (Greater Mekong Subregion Secretariat, 2019). In this thesis, however, China is not included because only some regions of the country are part of the GMS, and the country is not part of Mainland Southeast Asia. The selected countries have shared borders, and they also have similarities in cultures, social norms, religion, and beliefs which may have played important roles in adolescent sexual health, as well as accessing contraception and family planning service.

3.1 Geographical Details

Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam are the countries of Mainland Southeast Asia, a part of Southeast Asia in the Asian continent, situated to the south of China (Frederick & Leinbach, 2018). Figure 3 illustrates the location of the focused countries in the map of Asia.

The largest country in the study is Myanmar, which has a total land area of 676,578 square kilometres (Sein, et al., 2014). Myanmar is broken down into seven states and seven divisions which are further subdivided into 66 districts, 325 townships, and 60 sub-townships (Aye, et al., 2010). Cambodia, in contrast, is the smallest of the selected countries. It has a constitutional monarchy with a multiparty democracy and has a land area of 181,035 square kilometres (Annear, et al., 2015). Likewise, Thailand is also a constitutional monarchy, with a total area of approximately 513,115 square kilometres (Jongudomsuk, et al., 2015). The country is divided administratively into 76 provinces, which are further partitioned into districts, sub-districts, and villages (UNICEF Thailand, 2016).

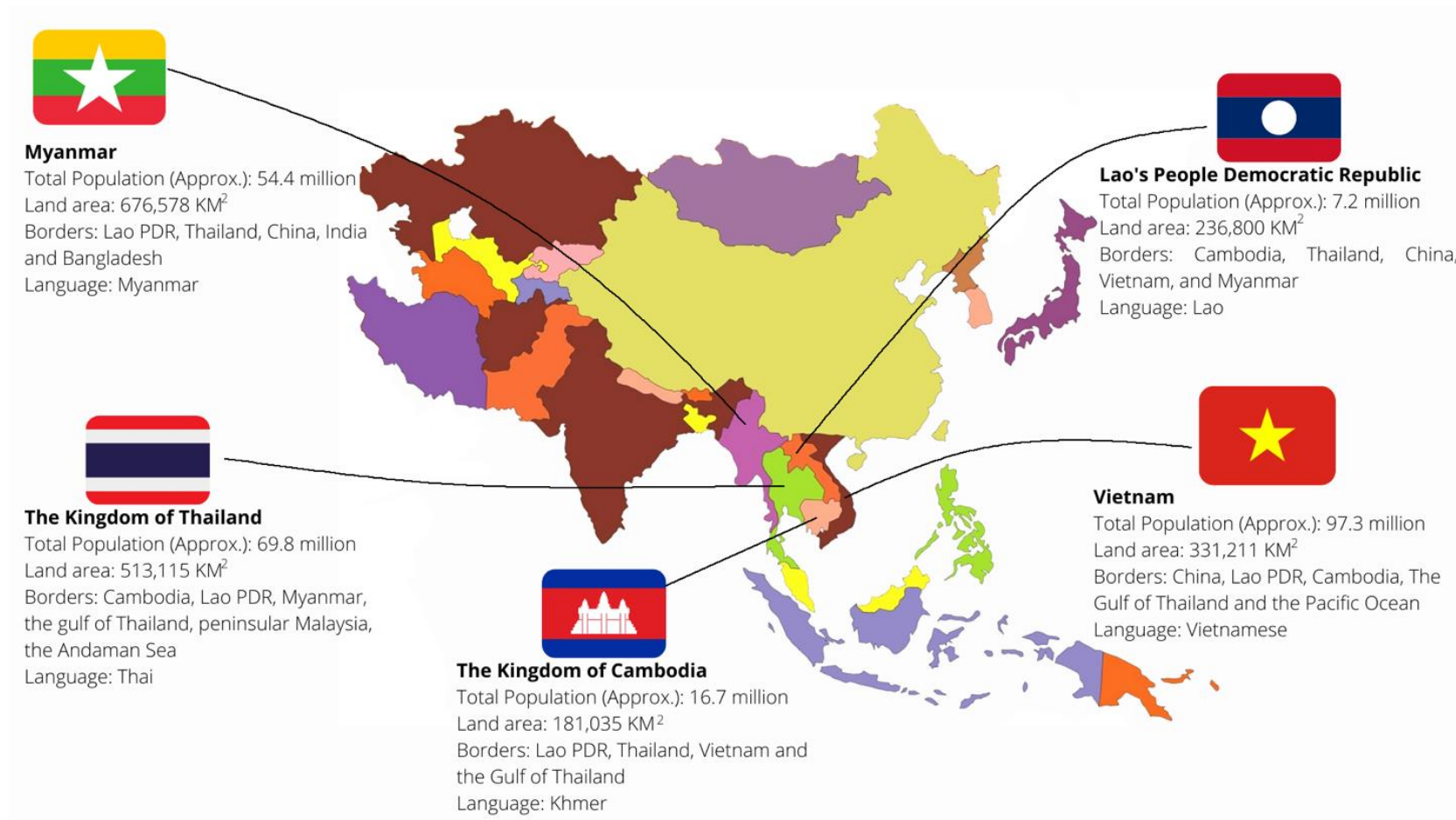


Figure 3 Geographical Summary of the Five Countries Under Study

Note. Data are from: Akkhavong et al. (2014), Annear et al. (2015), Jongudomsuk et al. (2015), Sein et al. (2014), UNICEF Vietnam (2017) and United Nations, Department of Economic and Social Affairs, Population Division (2019b)

The most populated country of study is Vietnam, located on the east of the Indochina peninsula, with a density of 308.1 persons per square kilometres, followed by Thailand (135.9), Cambodia (92.1), Myanmar (82.2), and Lao PDR (30.6) (The World Bank Group, 2020b). Vietnam occupies approximately 331,211 square kilometres of land area (World Health Organization, 2016b), of which three-quarters of its landmass is covered by mountains and hills (UNICEF Vietnam, 2017). The administrative system in Vietnam is comprised of 63 provinces and cities, which are divided into districts, towns, and cities (district level), and the districts are further divided into communities, wards, and townships (World Health Organization, 2016b). Lastly, the only landlocked and least populated country in this region is Lao PDR, located in the middle of Mainland South-east Asia, with a total land area of 236,800 square kilometres (Akkhavong, et al., 2014). Lao PDR is divided administratively into 17 provinces, 148 districts, and 8,507 villages (Lao Statistics Bureau, 2015).

With respect to climate situation, these countries have similar characteristics to most of the Southeast Asian countries which are tropical. However, there are slight differences in each country. For instance, Cambodia and Lao PDR have two main seasons: the rainy season or monsoon³ and dry season (United Nations Development Programme, 2020b; Frenken, 2012). Three-fourths of Myanmar has a tropical monsoon climate which is split into tropical regions and sub-tropical or temperate regions (Aye, et al., 2010). Due to the climatic conditions varying according to the topographical situation, the country classifies its climate as having three seasons: summer (March to mid-May), the rainy season (mid-May to the end of October), and winter (November to end of February) (Aye, et al., 2010).

The features of Vietnam's climate are more varied as it differs from region to region. While the north has a subtropical climate characterised by four seasons – spring, summer, autumn, and winter – the south is more tropical, with only two seasons: dry and wet (Frenken, 2012). The climate in Thailand is even more distinctive than the others, having various climate zones: tropical rain, tropical monsoon, and seasonal tropical grassland or savannah (Jongudomsuk, et al., 2015). Nonetheless, from a meteorological point of view, Thailand generally has three seasons: rainy or southwest monsoon season (mid-May to mid-October), winter or northeast monsoon season (mid-October to mid-February), and summer or pre-monsoon season (mid-February to mid-May) (Thai Meteorological Department, 2014).

³ The monsoon brings rain from mid-May to October, and a dry season from November to April, with typical year-round humidity from the southwest monsoon.

3.2 Demographic of Each Country

Vietnam has the largest population of the countries in the study, with a total population of approximately 97 million (United Nations, Department of Economic and Social Affairs, Population Division, 2019b). Indeed, it is the third most populous country in Southeast Asia, after Indonesia and the Philippines (Central Population and Housing Census Steering Committee, 2019). The second most populated amongst countries under study is Thailand, having around 69.8 million people, followed by Myanmar (54.4 million) and Cambodia (16.7 million) (United Nations, Department of Economic and Social Affairs, Population Division, 2019b). The least populated country is Lao PDR, which has approximately 7.2 million people, according to the latest statistics (United Nations, Department of Economic and Social Affairs, Population Division, 2019b). However, although it has a larger land area, the Lao population is less than half the size Cambodia.

With respect to ethnic diversity, Cambodia, Thailand, and Vietnam are considered to be homogenous countries. Nearly all the population of Cambodia are of the Khmer ethnic group (whose dialect is the official Cambodian language), accounting for 97%, and only 2% were Cham. The remainder were minority groups, including hill tribes, Chinese, Vietnamese, and others (National Institute of Statistics, 2018). Likewise, most of the Thai population (96%) are of Thai ethnicity, while the remainder are Chinese, Malay, Khmer, Mons, and other minorities, including hill tribes (Jongudomsuk, et al., 2015). Most of the Vietnamese population is of the Kinh ethnic group, which accounts for 85.3% of the total population, while the other ethnic groups were 14.7% (Central Population and Housing Census Steering Committee, 2019).

However, Lao PDR and Myanmar are more ethnically diverse. Myanmar has over 130 ethnic groups, with over 100 dialects spoken across the country (Sein, et al., 2014). Nonetheless, Myanmar is the official language. The groups are classified into eight major groups: Bamar (60%), Shan (8.5%), Kayin (6.2%), Rakhine (4.5%), and the remainder are Mon, Chin, Kachin and Kayah (Sein, et al., 2014). Similarly, in Lao PDR, there are 49 ethnic groups, categorised into four main ethnolinguistic groups: Lao-Tai, Mon-Khmer, Hmong-Mien, and Chinese-Tibetan. The Lao-Tai cover more than half (56.3%) of the total population in Lao PDR (Lao Statistics Bureau, 2015), and Lao is the official language.

A population pyramid, illustrating the age and sex structure of a country's population, may provide useful information about socio-economic development (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). The male and female populations are broken down into 5-year age groups represented as horizontal bars along the vertical axis, with the youngest age groups at the bottom and the oldest at the top (Figure 4). The shape of the population pyramid gradually emerges based on fertility, mortality, and international migration trends.

Taking a closer look at the population pyramids of Cambodia, Lao PDR, Myanmar, and Vietnam, the majority of the respective populations are the working populations (age group 15 – 64) accounting for nearly two-thirds of the populations in all the countries under study (United Nations, Department of Economic and Social Affairs, Population Division, 2019b). This implies that the countries are in period of demographic dividends⁴ since there is an average of two working people for every one dependent person (those who are 0 – 14 and over 65 years old). As a result, the opportunity for savings and socio-economic investments, such as in education, agriculture and infrastructure, may be increased, while social and healthcare demands would be decreased (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). On the other hand, Thailand's population structure is gradually transitioning to an older population structure as can be seen in the population pyramid (see Figure 4). The lower part was narrowed, whereas the upper-middle to top part became wider. The forthcoming generation in Thailand could experience an increasingly ageing population due to rapid demographic shifts and falling birth rates.

⁴ The period of transition when dependency burdens are at their lowest, providing opportunities for rapid economic growth (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012)

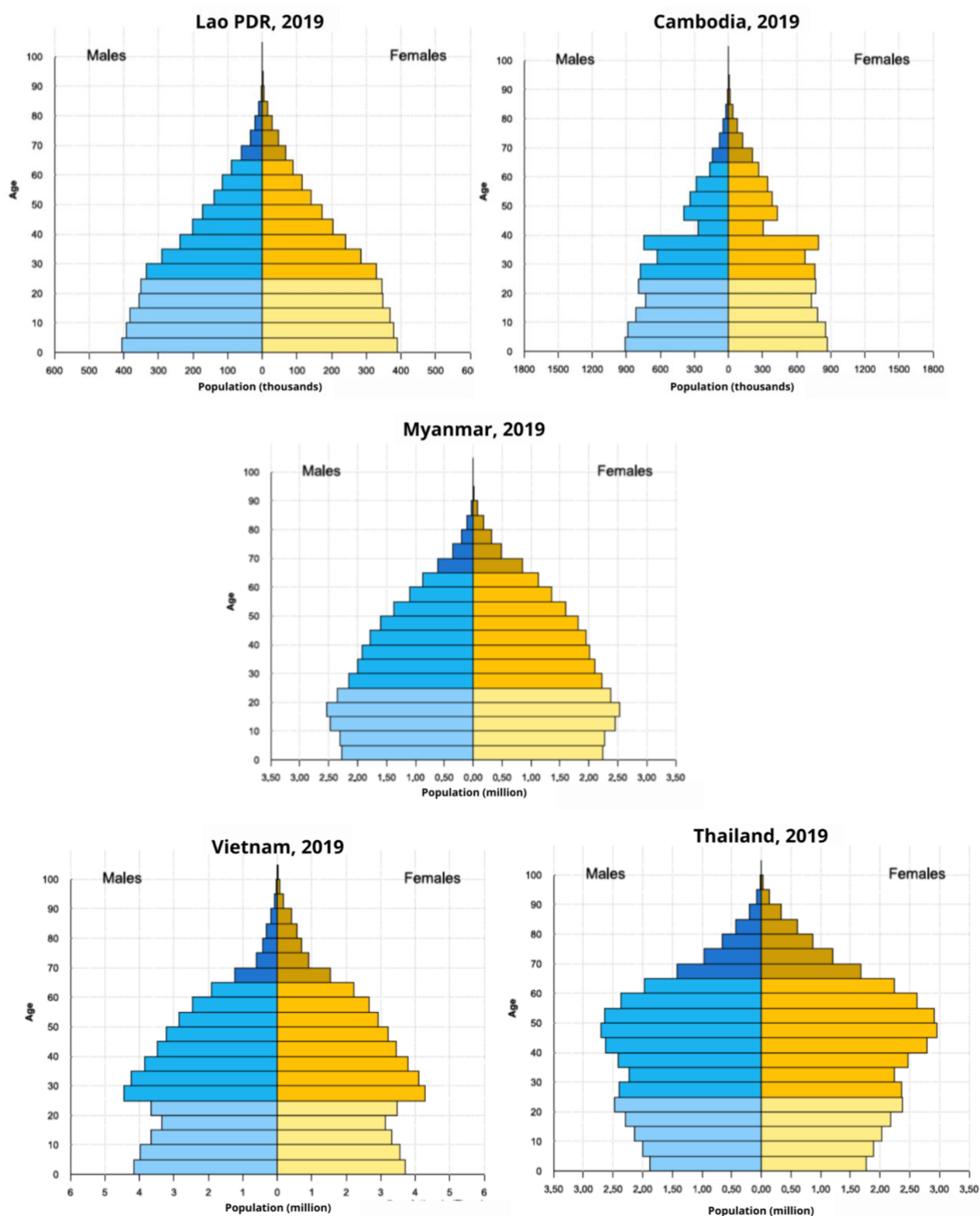


Figure 4 Population Pyramid of Cambodia, Lao PDR, Myanmar, Thailand, and Vietnam

Note. Adapted from *World Population Prospects 2019, Volume II: Demographic Profiles*, by United Nations, Department of Economic and Social Affairs, Population Division 2019. CC BY 3.0 IGO

3.3 Economics

Cambodia, Lao PDR, Myanmar, and Vietnam are classified as low-middle income countries, whereas Thailand is the only upper-middle-income country (The World Bank Group, 2020b). Thailand's economic development was impressive during the 1990s and, despite the Asian financial crisis in the 2000s, it could still maintain its GDP growth at approximately 5% (The World Bank Group, 2020a). This growth enhanced the nation's wellbeing and reduced poverty by generating more job opportunities, increasing access to education for children, and giving better health insurance coverage (The World Bank Group, 2020a). However, Thailand has recently struggled to sustain its growth, due to a reduction of exports as a consequence of global trade tensions between the United States of America and China (Asian Development Bank, 2020a), leading to a fall of GDP to 2.4% in 2019 (The World Bank Group, 2020b). Worse yet, the COVID-19 pandemic has impacted strongly on Thailand to the extent that its economic growth has contracted in 2020 because of a decrease in domestic and international demands and suspension of supply chains.

In Cambodia, as an agricultural country, rice production is still the main economic activity as well as small-scale subsistence agriculture, fisheries, forestry, and livestock (National Institute of Statistics and ICF, 2015). Foreign investments in garment factories and tourism are also among the key drivers of Cambodia's rapid economic growth (The World Bank Group, 2020a). Cambodia has recently enjoyed a robust economic performance, with a steady GDP growth rate on an average of 7% in the past decade (United Nations Development Programme, 2020b). However, in the third quarter of 2020, its economic stability sharply declined to -4.0% as the tourism, construction, manufacturing, and production sectors weakened and fell through disrupted demand and supply chains as a result of the COVID-19 pandemic (The World Bank Group, 2020a).

Similarly, Myanmar has been affected by economic distress as the primary source of its income is from the tourism industry, while other income sources are from gas, timber, beans and pulses, fishery, rice, and gemstones (Aye, et al., 2010). The pandemic situation has restricted the country's GDP growth, which declined abruptly to 1.8% from both the direct and indirect impacts of the COVID-19 pandemic after reaching 6.3% in 2019 (World Bank, 2019; The World Bank Group, 2020a).

Lao PDR is bio-diverse and rich in natural resources, which more than 70% of the Lao population depend on heavily for sustenance and income (The World Bank Group, 2017). The country's development has relied continuously on the exploitation of natural resources and placed pressure on environmental sustainability. Consequently, it has exacerbated the risks and increased frequency and severity of natural disasters (The World Bank Group, 2017). Economic growth was already stagnating even before the pandemic. This is because

of natural disasters such as flooding affecting agriculture – the main economic driver of Lao PDR which comprises 15.5% of GDP (Asian Development Bank, 2020a). As a result, GDP growth dropped significantly from 6.2% in 2018 to 4.7% in 2019 (The World Bank Group, 2020b). Although Lao PDR is increasing the capacity of its public construction, expanding hydroelectric power plants, and recovering from natural disasters, the COVID-19 pandemic has still impacted on its economic growth, which dropped the GDP to -2.5% in 2020.

Vietnam has one of the fastest-growing economies in South-east Asia with steady GDP rates. The country was anticipated to become a developed country by 2020 because of its economic strength and resilience, supplemented with intense domestic demands and manufacturing exports (The World Bank Group, 2020a). However, Vietnam's economy has also been hit by the pandemic outbreaks, making a drop in economic growth to 1.8% in the third quarter of 2020. It is projected that the economy of all five countries will bounce back by 2021 (see Table 3) once tourism, transport, trade, and other industries have recovered (Asian Development Bank, 2020b).

Table 3 GDP Growth Rate (%) of the Countries Under Study 2011 – 2021

Country Name	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 (projected)
Cambodia	7.1	7.3	7.4	7.1	7.0	7.0	6.8	7.5	7.1	-4.0	5.9
Lao PDR	8.0	8.0	8.0	7.6	7.3	7.0	6.9	6.2	4.7	-2.5	4.5
Myanmar	5.6	7.3	8.4	8.0	7.0	5.8	6.4	6.8	2.9	1.8	6.0
Thailand	0.8	7.2	2.7	1.0	3.1	3.4	4.1	4.2	2.4	-8.0	4.5
Vietnam	6.2	5.2	5.4	6.0	6.7	6.2	6.8	7.1	7.0	1.8	6.3

Note: Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0; and Adapted from *Asian Development Outlook 2020 Update: Wellness in Worrying Times*, by Asian Development Bank, 2020b. CC BY 3.0 IGO

3.4 Sociocultural Context

The Human Development Index⁵ is one of a nation's development indicators and is measured from 0 to 1.0. The score is measured from three dimensions: life expectancy at birth, years of schooling, and gross national income per capita (United Nations Development Programme, 2019a). The indicators of HDI are illustrate in Figure 5.

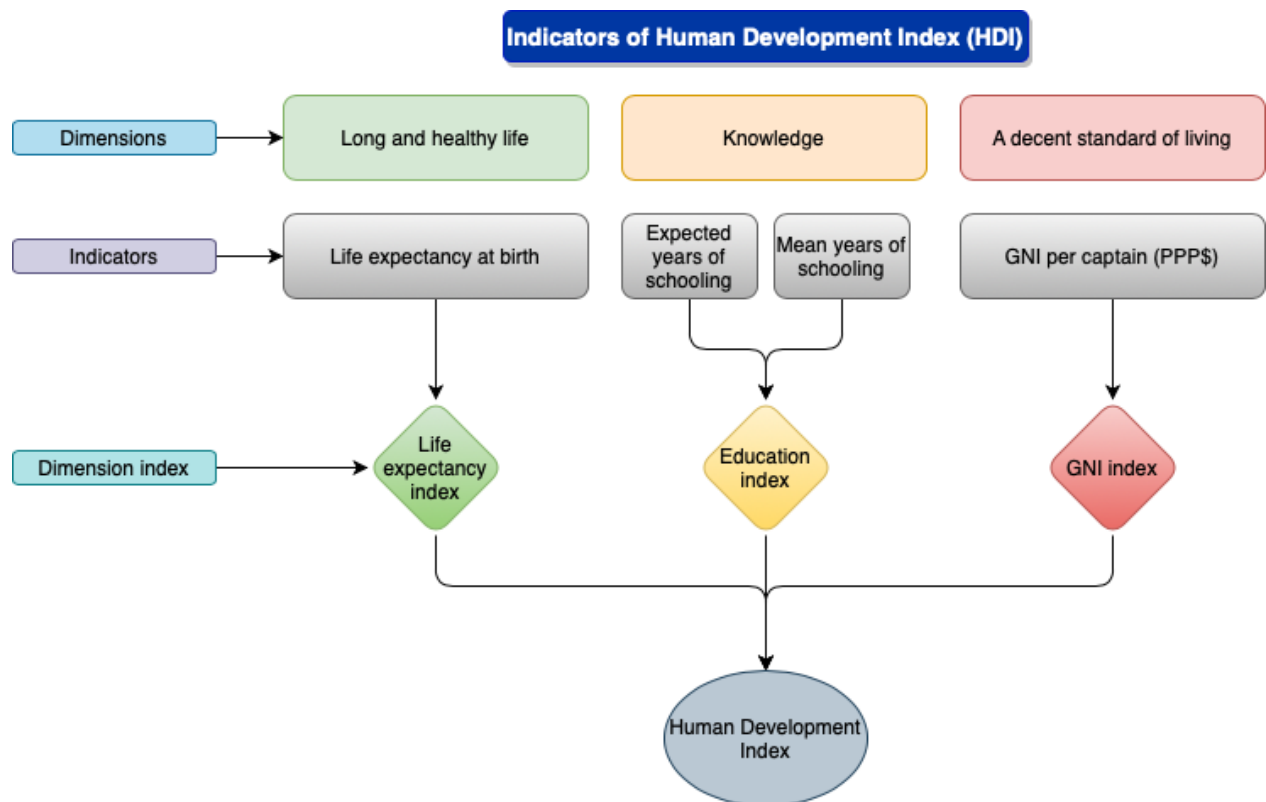


Figure 5 Indicators of Human Development Index

Note. Adapted from "Human Development Index (HDI)", by United Nations Development Programme, 2020 (<http://hdr.undp.org/en/content/human-development-index-hdi>). Copyright 2020 by United Nation Development Programme. CC BY 3.0. IGO

⁵HDI rank is further categorised into four ranges: very high human development, high human development, medium human development and low human development (United Nations Development Programme, 2019a).

Thailand was ranked in the high human development category, has the highest score and rank (0.765; ranked 77th) amongst the countries under study, followed by Vietnam (0.693; 118th), Lao PDR (0.604, 140th), Myanmar (0.584; 145th), and Cambodia (0.581; 146th), which are ranked in a medium range (United Nations Development Programme, 2019a). In addition, the HDI score is one of the indicators measuring the Gender Development Index (GDI) (United Nations Development Programme, 2019b). Gender equity among these countries is at a medium to a high level (see Table 4).

Table 4 Human Development Index and Gender Development Index of Each Country

Countries	GDI	HDI (Female)	HDI (Male)	HDI (Total)
Thailand	0.995	0.763	0.766	0.765
Viet Nam	1.003	0.693	0.692	0.693
Lao PDR	0.929	0.581	0.625	0.604
Myanmar	0.953	0.566	0.594	0.584
Cambodia	0.919	0.557	0.606	0.581

Note. Adapted from *Human Development Index (HDI)*, by United Nations Development Programme, 2020 (<http://hdr.undp.org/en/content/human-development-index-hdi>). CC BY 3.0. IGO; and Adapted from *Gender Development Index (GDI) 2019*, by United Nations Development Programme, 2019b. (<http://hdr.undp.org/en/content/gender-development-index-gdi>). CC BY 3.0. IGO

The dominant religion in the selected countries is Buddhism (Theravada), which is practised by approximately 95% of the population in Cambodia (Annear, et al., 2015), 56% in Lao PDR (Lao Statistics Bureau, 2015), around 90% in Myanmar (Sein, et al., 2014), and more than 93.6% in Thailand (UNICEF Thailand, 2016). The remainder of the populations are Christian, Islam or Muslim, or of no faith. Interestingly, commonly practised religion in Vietnam is considerably varied as the government has documented 14 different religions. However, Buddhism (Mahayana) is the most practised – by almost 10% of the population in Vietnam, followed by Roman Catholic (approximately 5.5%), and the rest are Cao Dai, Hoa Hao, Protestant, Muslim, and others (UNICEF Vietnam, 2017). Buddhist teaching could impact on the countries' social structure, values, and norms. Such culture and norms exhibit the notion of female subordination and male domination or superiority (for instance, in education, health and religion) (UNICEF Thailand, 2016).

Priority has been given to the education of males because men are believed to be more competent in education than women (Institute for Social Development Studies, 2015). For instance, in Vietnam, men do not want to marry women who have higher educational qualifications than they do, because it threatens their marriage (Institute for Social Development Studies, 2015). Also, there are cultural resistances to sending girls to school because they are perceived to be more beneficial in housework (UN Cambodia Country Team, 2009; Lao People's Revolutionary Youth Union and United Nations Population Fund, 2014).

Buddhist ideology allows men to dominate women via cultural and moral concepts (UNICEF Thailand, 2016). For instance, Buddhist monkhood is only reserved for men, and thus women believe that being born a woman is because they have bad karma (UNICEF Thailand, 2016). This ideology influences norms such as that men are the heads of the households and decision-makers, whereas women are inferior in the family (Thien, 2015). Some norms are harmful to women's sexual health life, for instance, the perception of women's menstruation as dirty, the importance of childbearing, sexual innocence, female virginity, and submissiveness among women, whereas men should have more sexual experience to define their masculinity (Thien, 2015; UNICEF Vietnam, 2017; Ministry of Women's Affairs, 2014).

Buddhist teaching also has particular viewpoints on contraceptive use and abortion. Contraceptive methods that prevent fertilisation are not immoral for Buddhists as they believe that an egg is not fertilised, and conception has not yet begun. However, emergency contraception, which blocks a fertilised egg from implanting, may not be acceptable (Family Planning Association, 2016). Human life is believed to begin once the foetus is viable – the time consciousness starts inside the womb. Therefore, abortion is an act of killing which contradicts Buddhist precepts (Family Planning Association, 2016). Such an action, as an exception, would be considered ethical if the life of the pregnant women is at risk.

3.5 Overview of Education

At the national or central level, the Ministry of Education, Youth and Sports (Cambodia), the Ministry of Education and Sports (Lao PDR and Thailand), the Ministry of Education (Myanmar), and The Ministry of Education and Training (Vietnam) oversee educational activities, and then further down by department, bureau or unit at the sub-national level (UNESCO, 2012). In Thailand, other ministries (Defence, Public Health, Transport and Communications, Agriculture and Cooperatives, Justice, and Labour and Social Welfare) also take charge of managing educational activities in specific fields (UNESCO, 2012).

3.5.1 Education System

All five countries classify their basic education levels as preschool or pre-primary, primary, and secondary. Tertiary education and vocational education can be obtained when students have completed basic education (secondary level). The school years at each level vary in each country: for instance, Lao PDR and Myanmar employ a 5-4-3 system⁶, whereas Cambodia, Thailand, and Vietnam have a 6-3-3 system⁷. Primary education is compulsory in these countries (UNESCO, 2012). In addition, Cambodia, Lao PDR, and Thailand have enforced lower secondary education as compulsory, while only primary education is compulsory in Myanmar and Vietnam (UNESCO, 2012; Lao Statistics Bureau, 2015; Central Population and Housing Census Steering Committee, 2019).

3.5.2 Sex Education

A comprehensive review of the global education system and curricula carried out by UNESCO (2012) found that none of the basic education standards in the selected countries incorporated topics related to sex, sexuality, sexual education or relationships. Occasionally, physical or physiological development might be included in biology classes, but there is no such separate subject or activity in the curricula of any of these countries (UNESCO, 2012). Conversely, another review (UNESCO Bangkok, 2012) reported that the countries under study have been integrating sex education into their national curriculum. Myanmar reported having integrated the curricula into primary and secondary education, while the remaining of the selected countries reported covering sex education in primary, secondary, tertiary, non-formal education system and teacher training (UNESCO Bangkok, 2012).

In Thailand, sex education content is divided into six topics: 1) gender, 2) sexual development, health and behaviour, 3) sexual rights and citizenship, 4) violence; 5) identity and relationships, and 6) topics meant to be covered with students over the age of fifteen (Ministry of Education and UNICEF Thailand, 2016). Similarly, in Lao PDR, sex education is delivered through a Life Skills Programme, comprising six sections: 1) relations and rights; 2) self-understanding and our body; 3) pregnancy, mother and childcare, abortion; 4) family planning; 5) sexuality and gender; and 6) drugs and alcohol issues (Sychareun, Phimmavong, & Hansana, 2017). Cambodia's Ministry of Education is planning to implement a more comprehensive health education curriculum, including sex education, at the beginning of 2022 (Khan & Socheata, 2020). Currently, Cambodia's curricula only incorporate four elements: 1) gender; 2) sexual reproductive health and HIV; 3) sexual citizenship rights; and 4) violence

⁶ 5 years of primary school, 4 years of lower secondary and 3 years of upper secondary school

⁷ 6 years of primary school, 3 years of lower secondary and 3 years of upper secondary school

(Sisokhom & Saran, 2016). In Vietnam, sex education has been delivered through booklets called “As We Grow”, which comprise three volumes: Volume 1, "What is happening to me" (puberty); Volume 2, "A multi-chamber heart" (love and relationships); and Volume 3, "Stories of Love" (safe sex and HIV/AIDS) (UNESCO, 2016). The Myanmar Ministry of Education is currently collaborating with UNESCO to review the National Life Skills Education curriculum (UNESCO, 2019).

3.5.3 Literacy Rate

Current literacy rates⁸ are increasing, and the number of children enrolled in primary school has been growing, albeit gaps between genders, geographical areas, and minorities remain. In Cambodia, the average literacy rate was 84.9% (87.3% for males and 82.5% for females) (National Institute of Statistics, 2018). Phnom Penh, the capital city, had the highest rate of all geographical areas, namely about 92% for women and about 98% for men, while other rural areas are as low as 73.4% for females and 81.3% for males. There are gaps in the rural-urban area as well as gender gaps as the literacy rate for men was higher than their women counterparts in all areas (National Institute of Statistics, 2018). The gender gap was even larger in the Lao PDR with an overall literacy rate of 85% of the population aged 15 and above (90% for male, and 80% for female) (Lao Statistics Bureau, 2015). Myanmar also encounters gaps in literacy levels, but the average rate is significantly high (89.5% for both sexes; 86.9% for females and 92.6% for males) age 15-49, which is slightly higher than Cambodia and Lao PDR (Ministry of Immigration and Population, 2015).

Thailand and Vietnam have made remarkable progress in educating their population. Thai people have a high literacy rate overall. As estimated in 2018, the adult literacy rate (individuals aged 15 years and older) was 93.77%, where male adults have a marginally higher literacy rate than females (95.2% and 94.43% respectively) (Institute of Statistics, UNESCO, 2020). This is very similar to Vietnam, where the literacy rate was slightly higher than Thailand, and indeed the highest amongst all the countries of study. The national census shows that the literacy rate was 95.8%, of which males (97%) are slightly higher than females (94.6%) (Central Population and Housing Census Steering Committee, 2019). Gender gaps remain in the overall enrolment rate in primary schools in Cambodia, Lao PDR, and Myanmar, but this is not the case in Thailand and Vietnam (see Table 5). However, in lower secondary school, the net attendance rate for boys (27 %) is lower than for girls (33%).

⁸ Literacy rate in this thesis refers to the percentage of the population aged 15 years and above who can read and write simple messages.

Table 5 Gross Primary School Enrolment (%) of Each Country

Country	Gross primary school enrolment* (%) in 2018	Female	Male
Lao PDR	102.36	100.35	104.29
Myanmar	112.30	109.73	114.84
Thailand	99.77	99.77	99.77
Vietnam	110.59	111.85	109.46
Cambodia	107.41	106.07	108.68
*UNESCO (2020) states that “gross enrolment rate can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late entrants, and grade repetition” (UNESCO Institute of Statistics, 2020)			

Note: Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0

3.6 Health Background

3.6.1 Health Organisation Overview of Each Country

In Myanmar, the health system is arranged by technical departments and regions. There are seven departments, each under the director-general of the Ministry of Health (MOH) namely: Department of Health; Department of Health Planning; Department of Medical Science; Department of Traditional Medicine; and three Departments of Medical research in Lower, Upper, and Central Myanmar (Sein, et al., 2014).

The health system in Vietnam is divided into four administrative levels: national (Ministry of Health), provincial (Department of Health), district (health centres), and community level (commune health station) (World Health Organization, 2016b). The Vietnam MOH manages national hospitals, research institutes, universities and colleges, and certifies licenses for private hospitals and clinics through the Department of Health (World Health Organization, 2016b). Other public sectors such as the Ministry of Transport, Ministry of Construction, Ministry of Industry and Trade, and the Ministry of Agriculture and Rural Development have their own healthcare network and clinics that are not under the supervision of the MOH (World Health Organization, 2016b).

The Ministry of Health Cambodia (MOH) is exclusively in charge of national public health service provision, as well as governing health services and programmes further down to provincial and district levels (Annear, et al., 2015). The Secretaries of States (comprised of the Undersecretaries of States and the Cabinet) and the Ministry of Health supervise the three main General Directorates, which are further divided into sub-departments (see Figure 6) (Annear, et al., 2015). These departments work in collaboration to ensure the achievement of the health objectives in the National Strategic Development Plan.

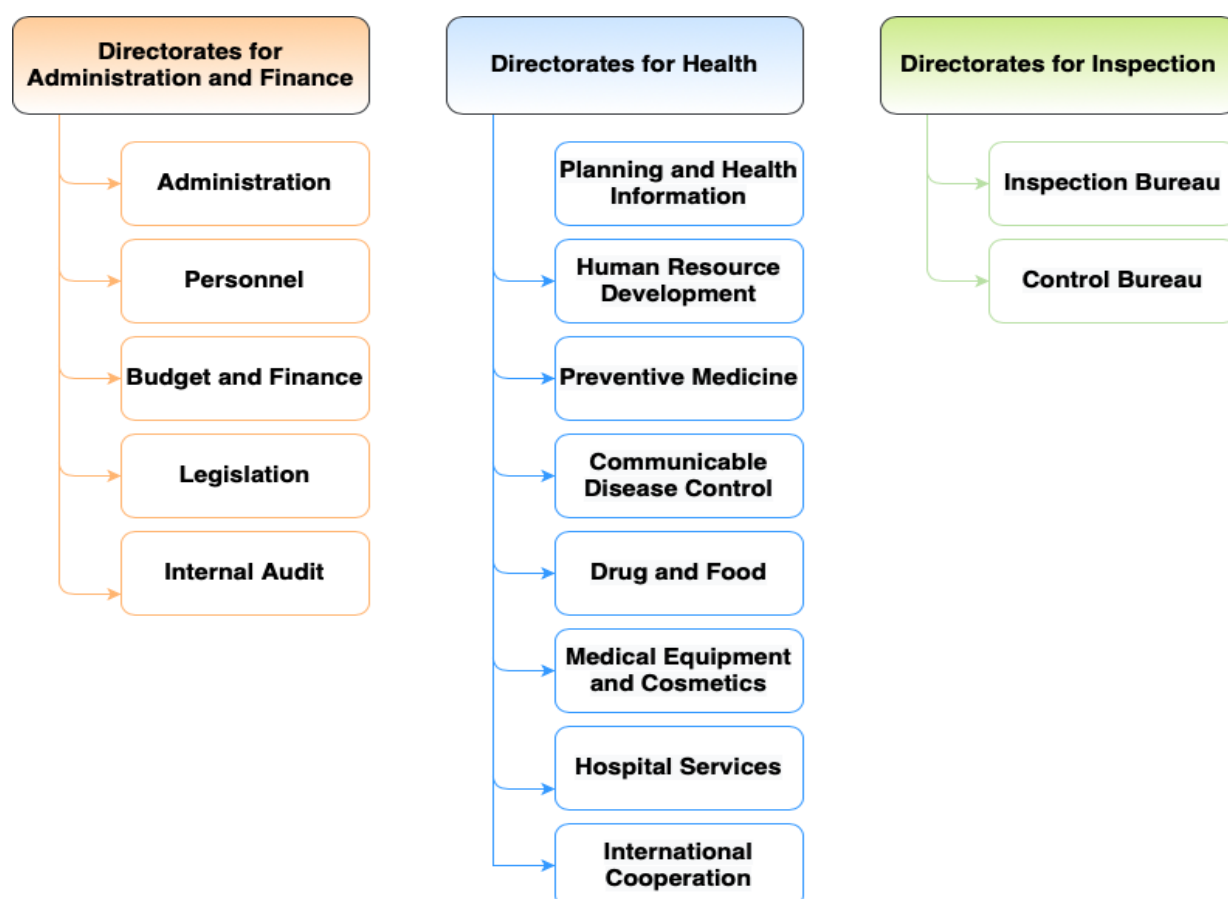


Figure 6 Cambodia Health System Organisation

Note. Data are from Annear et al. (2015)

The Lao MOH is also the only national health authority, but it is different in terms of dividing its departments. There are ten departments plus an administration office (World Health Organization, 2018c). These departments are also divided further at provincial and district levels (see Figure 7). Aside from governing and providing overall guidance to provincial and district offices, the MOH holds a full responsibility to provide education and training for health professionals through the University of Health Sciences (in Vientiane capital) and seven health colleges at the provincial level, which are all under the MOH's jurisdiction (Akkhavong, et al., 2014).

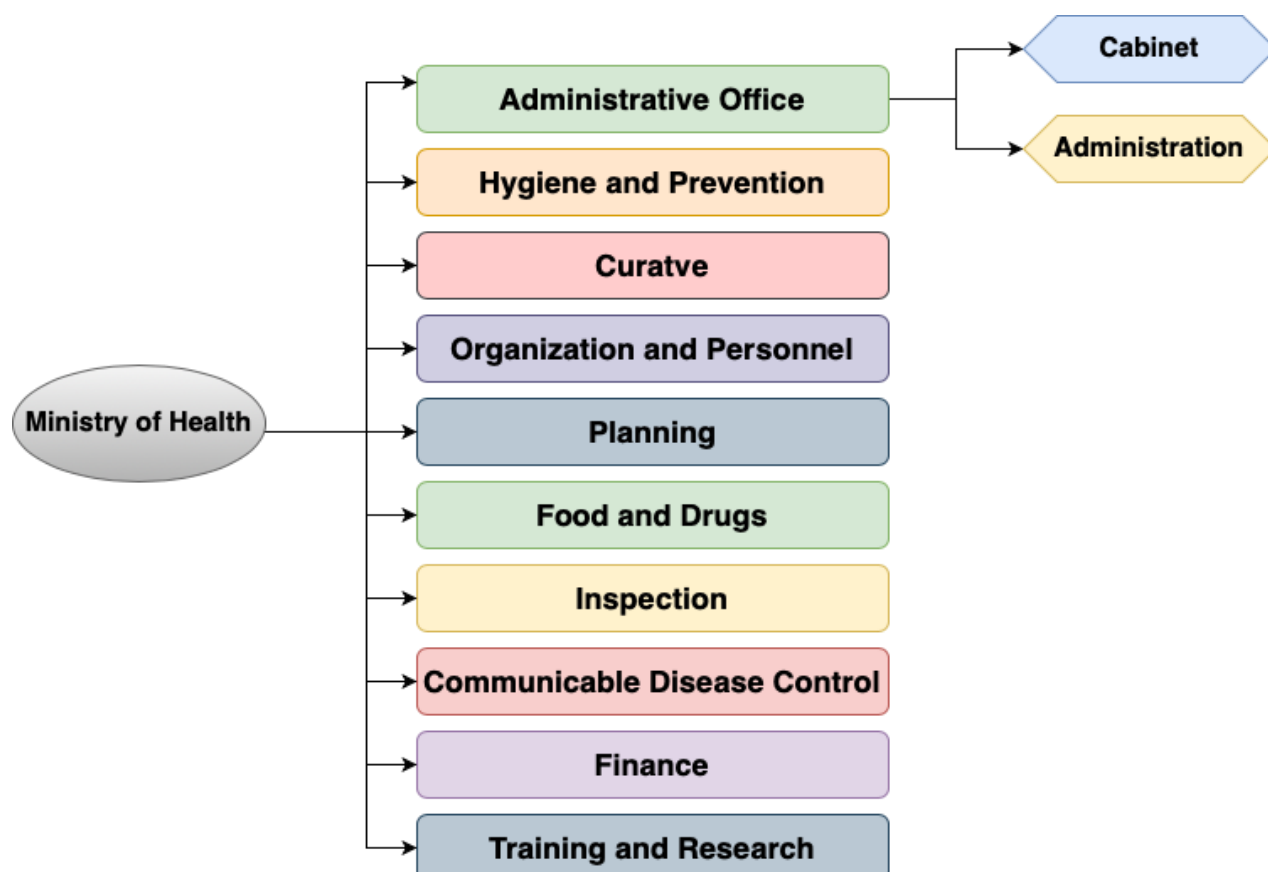


Figure 7 Health System Organisation of Lao PDR

Note. Data are from Akkhavong et al. (2014)

Like other countries in the study, the Thai Ministry of Public Health (MoPH) is the key body providing public healthcare services through health promotion, prevention, disease control, treatment, and rehabilitation. At the central level, the system is organised in three clusters (Jongudomsuk, et al., 2015). The clusters are further broken down into departments (see Figure 8) which oversee the health centres at regional, provincial, and district levels (Jongudomsuk, et al., 2015).

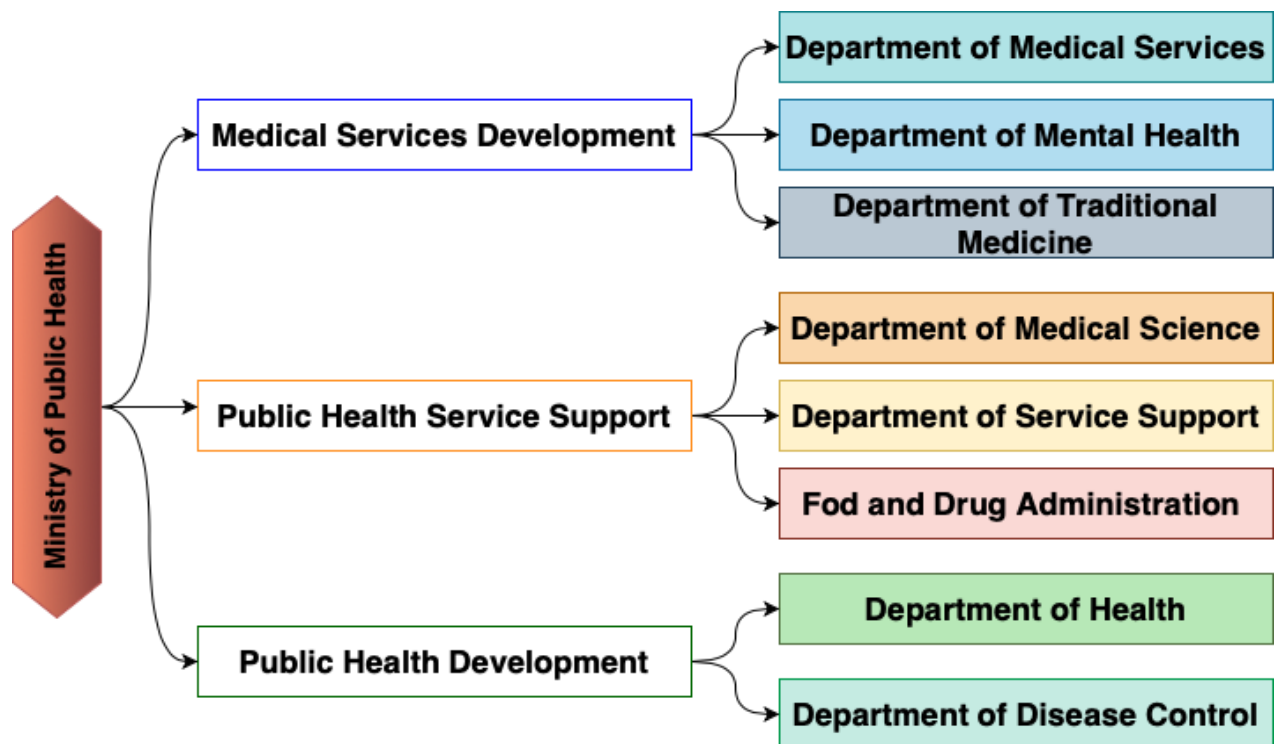


Figure 8 Thailand's Health System Organisation

Note. Data are from Jongudomsuk et al. (2015)

3.6.2 Overview of the Health Context

Health status in the selected countries is steadily improving and can be observed through the fact that people live longer and healthier lives. The development of the economy and healthcare has impacted on life expectancy, fertility, birth rate, mortality, and morbidity trends have progressively improved over some time. It should be noted that health status in this thesis only reports the selected indicators of Goal 3 under the United Nations Sustainable Development Goals (See Figure 13) that are more relevant to the research scope.

Life expectancy at birth

Life expectancy at birth is a well-known indicator to gauge a nation's health development status by measuring the average number of years a new-born infant is expected to live (OECD/WHO, 2018). The health of the population in these five countries has notably improved, with evidence of a continuous increase in life expectancy rates. The rates have surged substantially for the populations of Cambodia, Lao PDR, Myanmar, and Thailand (from 58.4, 58.8, 60.1, and 70.6 years old in 2000 to 69.6, 67.6, 66.9, and 76.9 years of age in 2018, respectively) whereas it has only increased moderately for the Vietnamese population (73 years old in 2000 to 75.3 years old in 2018) (The World Bank Group, 2020b). Interestingly, female life expectancy has been substantially higher than males in all countries (see Figure 9).

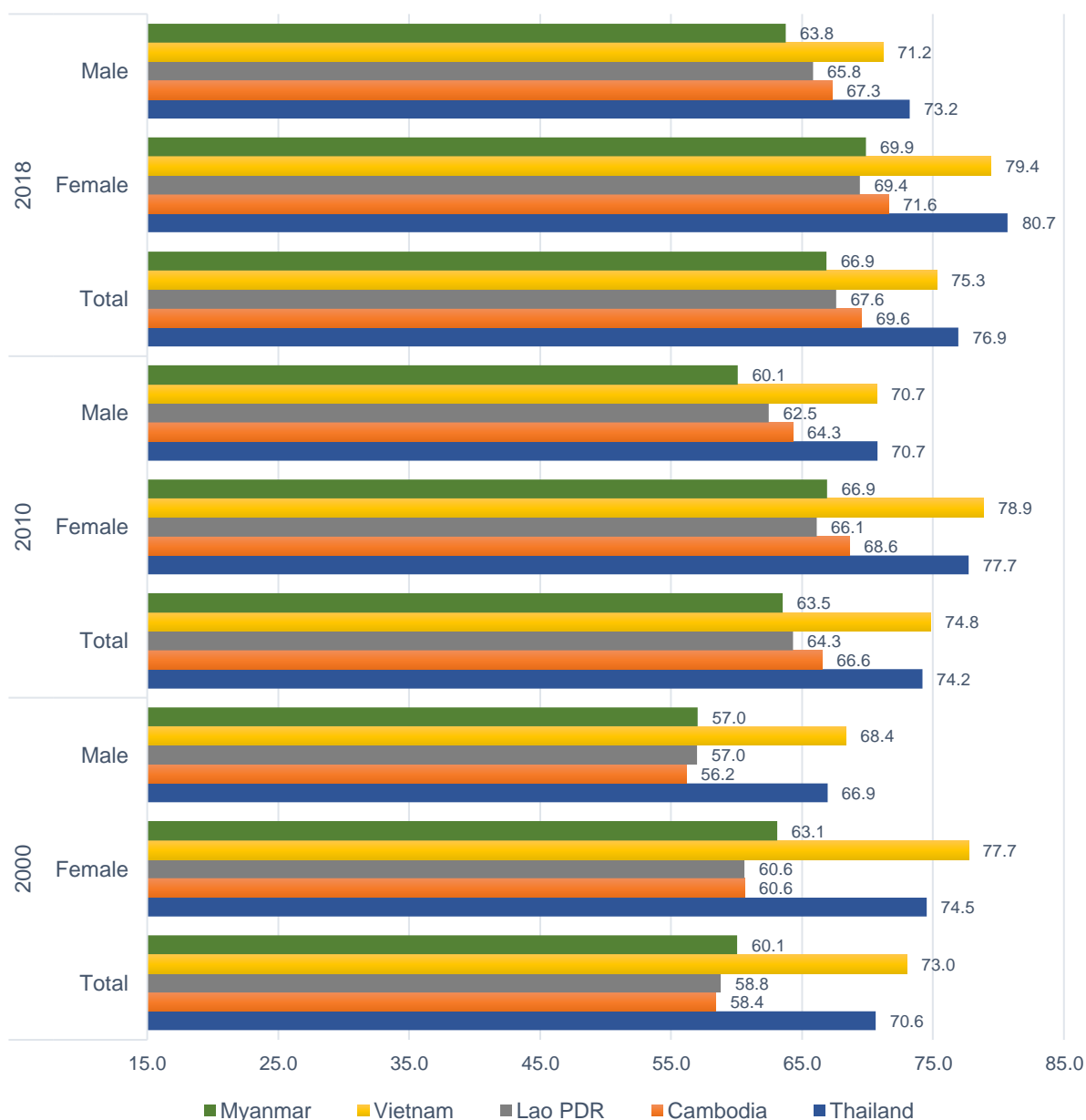


Figure 9 Life Expectancy Trends at Birth in the Focused Countries Between 2000–2018

Note. Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0

Infant and under-five mortality

Infant and under-five mortality indicate the socio-economic, environmental, and healthcare situation, as well as the health of the mother. The infant mortality rate is referred to as the number of infants that die before their first birthday, and under-five mortality means the probability of the number of children that will die before their fifth birthday, both expressed per 1,000 live births (OECD/WHO, 2018). Thailand achieved the target of fewer than 12 infant deaths per 1,000 live births under goal 3.2 of the Sustainable Development Goals (United Nations, 2020), with less than 8 deaths per 1,000 live births in 2019 (The World Bank Group, 2020b). Despite experiencing a dramatic decline over time, the rest of the countries under study still lag behind, especially in Cambodia, Lao PDR, and Myanmar, where between 22 and 36 infants die before their first birthdays. Yet, the figure in Vietnam is considerably lower than these three countries (16.5/1,000) (The World Bank Group, 2020b). Concerning the under-five mortality rate, Cambodia, Lao PDR, and Myanmar still encounter a high number: 26 to 46 children died before reaching five years of age. Only Thailand and Vietnam (9/1,000 and 20/1,000, respectively) achieved the target of less than 25/1,000 live births of the Sustainable Development Goals (United Nations, 2020).

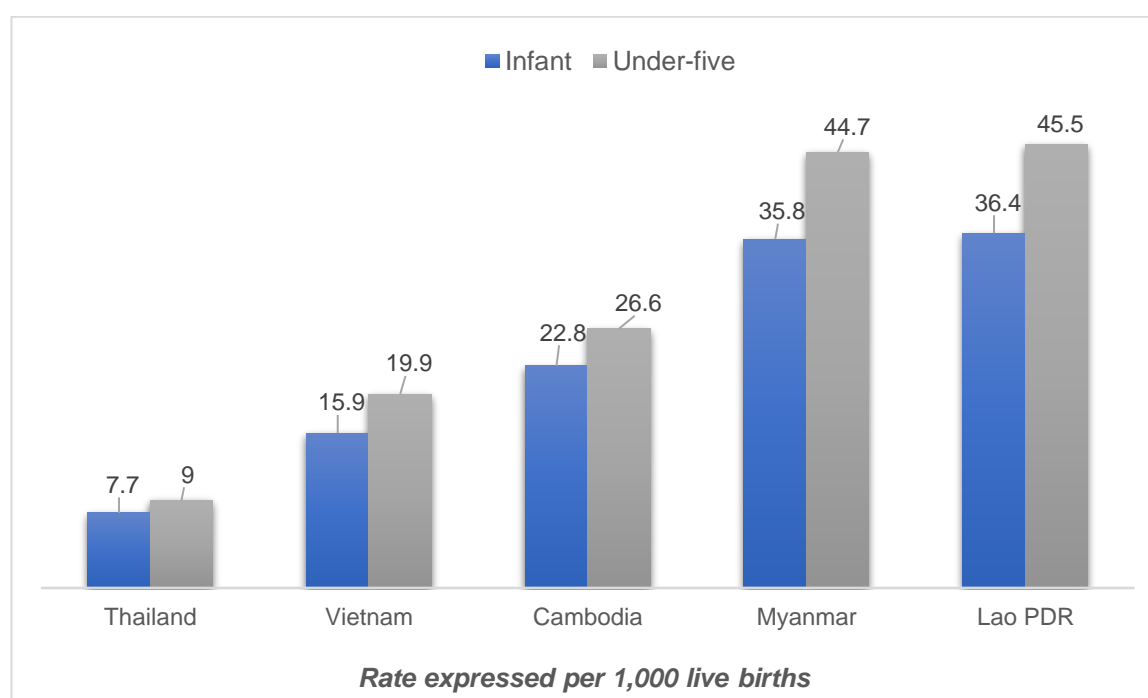


Figure 10 Comparing the Infant and Under-Five Mortality Rate in 2019

Note: Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0

Maternal mortality

According to OECD/WHO (2018), maternal mortality means the deaths that occur among women during their pregnancy, delivery or post-abortion within 42 days. The measure is made by using the maternal mortality ratio (MMR), which is expressed by the number of maternal deaths per 100,000 live births (OECD/WHO, 2018). The major causes of maternal deaths are severe postpartum bleeding infections after childbirth, pre-eclampsia and eclampsia unsafe abortion, and complications from giving birth (World Health Organization, 2019a). There has been a remarkable reduction in maternal deaths amongst the countries in the study, most notably Thailand and Vietnam.

Despite continuous downward trends, the current (2018) maternal mortality ratio in Cambodia, Lao PDR, and Myanmar remain significantly high (160, 185, and 250 deaths per 100,000 live births), which is more than five to ten times higher than Thailand (37/100,000) and Vietnam (43/100,000) on average (The World Bank Group, 2020b). Then again, only Thailand and Vietnam attained the Sustainable Development Goals (SDGs) for reducing maternal death to at least 70 per 100,000 live births (United Nations, 2020). A study conducted by Girum and Wasie (2017) in 82 developing countries revealed that the maternal mortality ratio was associated with the socio-economic (i.e., education, health, and economy) indicators of a country. The finding also suggested that high fertility levels, the prevalence of early marriage, and teenage pregnancy were significantly associated with high maternal mortality (Girum & Wasie, 2017). Of note, Thailand and Vietnam have higher human development indices, having reduced the fertility rate and potentially lowered maternal mortality.

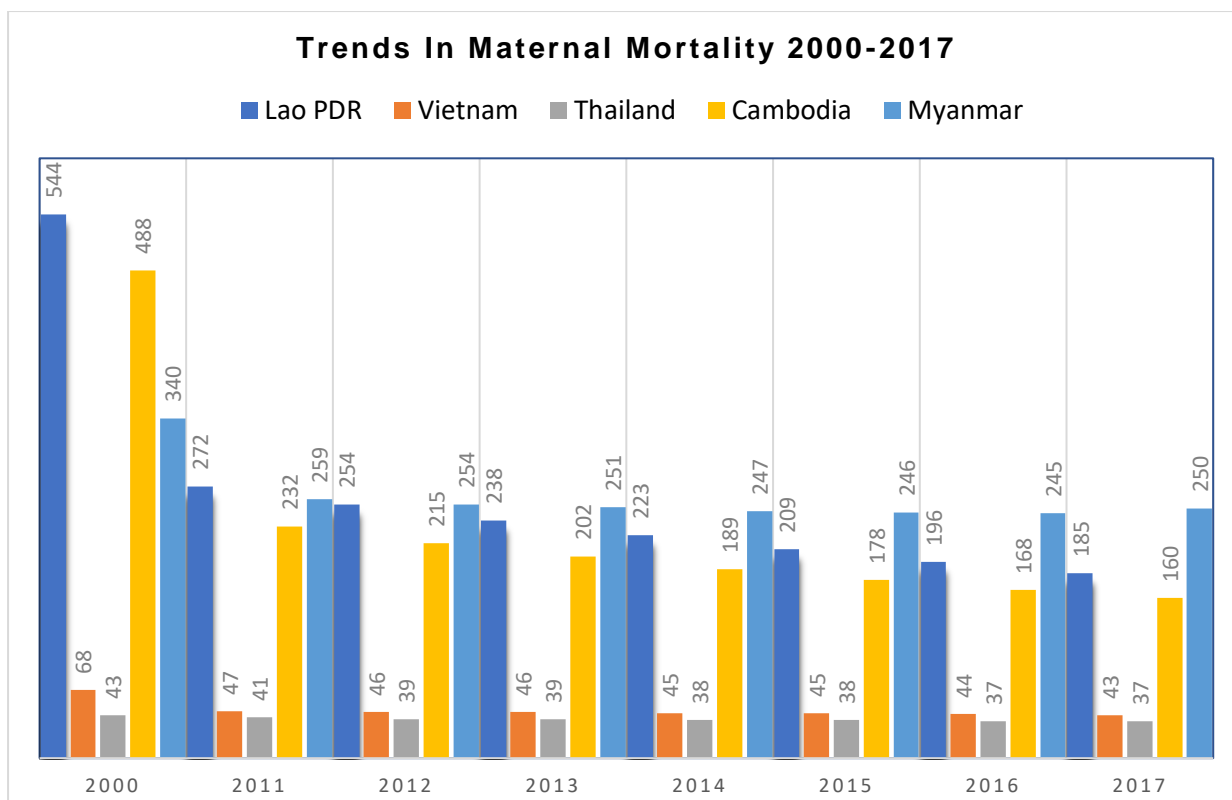


Figure 11 Trends in Maternal Mortality 2000-2017 of the Selected Countries

Note. Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0

3.7 Law on Abortion and Age of Sexual Consent

Each country has a different restriction spectrum on abortion. Such restrictions may influence women's decisions to access healthcare services for safe abortion and improve their sexual and reproductive health (Grimes, et al., 2006). Evidence suggests that there are strong relationships between unsafe abortions and abortion laws. Unsafe abortion occurs 20 times more often amongst the countries that have the most restrictive laws (Haddad & Nour, 2009). Women may have to seek for pregnancy termination from private providers, who usually are not well trained, and within less safe facilities due to the restrictions of the law (World Health Organization, 2019b). It is important to note that a less restrictive abortion law does not automatically increase the numbers of abortions. Still, it also does not ensure that women will undergo safe abortions either (Haddad & Nour, 2009). The table below summarises the minimum age of sexual consent⁹ and the legality of abortion in the countries under study.

⁹ It is important to note that, despite the legal age, the act of consent could not be valid or legal if the person giving consent has a developmental disability, is intoxicated or unconscious (Rape, Abuse & Incest National Network, 2020).

Table 6 Laws on Abortion and Sexual Consent

Countries	Abortion permission	The minimum age for sexual consent
Cambodia	Without restriction as to the reason	15
Lao PDR	No permission for any reason	15
Myanmar	To save the life of a woman	14
Thailand	To preserve mental health and save the life of a woman	15
Vietnam	Without restriction as to the reason	18

Note. Adapted from *Abortion in Asia*, by Guttmacher Institute, 2017. (<https://www.guttmacher.org/fact-sheet/abortion-asia#>). Copyright 2020 by Guttmacher Institute and Adapted from *Age of Consent, By Country 2020*, by World Population Review, 2020. (<https://worldpopulationreview.com/countries/age-of-consent-by-country/>). Copyright 2020 by World Population Review.

Chapter 4 Conceptualisation of Family Planning and Sexual Reproductive Health

4.1 Background and History

The family planning movement came to flourish from the 1960s to 1990s in the West, when rapid population growth became a global concern. It was assumed that an unprecedented expansion of population would stagnate economic development and lead to resource scarcity (Robinson & Ross, 2007). During this time, the impetus also flowed from concerns about women's rights and empowerment to control their reproductive choices, as pioneered by Margaret Sanger and her peers (Robinson & Ross, 2007).

During the 1960s, many regions were witnessing an unprecedented population growth resulting from a substantial decrease in mortality and a corresponding increase in fertility rate (Seltzer, 2002). Such rates attracted the concerns of demographers and social scientists, who theorised that excessive population growth would inundate natural resources and food supplies, and impact at the macro-level on national economic performance and investments (Seltzer, 2002). This pessimism was rooted in the writing in the 1790s of Thomas Malthus, who questioned the feasibility of future social development amidst the vast populations (Bloom, Canning, & Sevilla, 2003). Malthus hypothesised that rapid population growth would put pressure on food supplies, which would be depleted rapidly if left unchecked (Seltzer, 2002). Given that the earth's resources are finite whilst technological advancement remained slow, this would bring existing resources to subsistence level and lead to a lower standard of living (Seltzer, 2002; Bloom, Canning, & Sevilla, 2003). The concerns had influenced the development of family planning programmes, as policymakers believed the programme would decelerate population growth through fertility reduction (Bloom, Canning, & Sevilla, 2003). In return, fewer pressures would be placed on the environment because of lower utilisation of resources and supplies dedicated to childrearing, and eventually, economic progress could be enhanced (Bloom, Canning, & Sevilla, 2003).

The role of family planning programs has been contested amongst public health and social science professionals, as well as feminists and women's health advocates from the 1960s to 1970s (Robinson & Ross, 2007). Social scientists claimed that the family planning program was not comprehensive, and that it was narrowly focused on addressing high fertility rates, rather than attempting to understand the complexity of the sociocultural influence on fertility in some traditional societies (Robinson & Ross, 2007). Feminists also raised criticisms toward demographic rationale of family planning – population control programmes – the program perceived women as a statistical target for fertility reduction and for the numbers of

contraceptive users (Robinson & Ross, 2007). Such a target did not genuinely address women's reproductive health, rights, or needs, and thus had brought the programme into conflict with human rights, particularly women's rights to control their bodies without government interference (Bloom, Canning, & Sevilla, 2003). Critics also highlighted the coerciveness of some programs, for instance, in India and China, which emphasised population control, rather than the right and reproductive wellbeing of women (Seltzer, 2002).

Debates brought about an international meeting of governments to tackle the so-called global population issue – the World Population Conference – held in Bucharest in 1974. The supporters of the conference (the U.S. government and its key organisations, and some Western European and Asian countries) expected to build consensus in responding to rapid population growth problems, and to encourage fertility reduction through family planning programmes (Robinson & Ross, 2007). However, the controversial viewpoints were from those viewing population growth as a hindrance to development, as opposed to those perceiving development as a cause of fertility decline (Frey, 2011). These opposing views were expressed throughout the conference. Many developing nations view population growth differently because it was not the cause of slow economic progress, but it was a consequence of social disparity, and therefore redistribution of resources between the rich and impoverished countries was needed (Robinson & Ross, 2007). Delegates from these countries advocated the notion that the best contraception is a result of development (Robinson & Ross, 2007). In essence, the conference did not turn out as expected, and the proposal of limiting population growth through family planning programs were rejected.

Later in the 1980s, most developing countries had recognised the impact of rapid population growth, and they recommended that governments should support and make a concerted effort to make family planning services universally available (Seltzer, 2002). In 1984, a global population conference was held in Mexico to reiterate the World Population Plan of Action agreed at the Bucharest in 1974 (Robinson & Ross, 2007). This brought about opportunities for a recommitment to voluntary family planning programmes by governments to contribute to the stabilisation of the world population (Robinson & Ross, 2007). However, the USA surprisingly announced that its focus had shifted from population concerns and government commitment in family planning programme to a market-based economy for fertility reduction as well as presenting their opposition to abortion (Robinson & Ross, 2007; Seltzer, 2002). This impacted on the program policies as this stance blocked funds for international organisations providing family planning and contraception services that offer abortions, consultation, or even referrals. This created the term “the Global Gag Rule¹⁰” or “Mexico City

¹⁰ The Global Gag Rule, also called Mexico City Policy is the rule that prohibits international non-governmental organisations receiving health funds from United States to provide legal abortion services, counselling or referrals

Policy". The policy has adversely impacted on women's sexual reproductive health, because pregnant women suffer from delayed services, leading to a higher maternal death rate, and rising numbers of unplanned pregnancies and unsafe abortions (IPPF, 2020; Open Society Foundations, 2019).

The debate over population growth and economic development that incorporated environmental concerns continued to the 1990s but started to diminish in the mid-1990s when human rights became more prominent (Seltzer, 2002). During this time, global demography experienced a huge decline in fertility and population growth across Asia and other developing regions, leading to the impression that the population problem had come to an end (Robinson & Ross, 2007; Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). The focus on population growth was replaced by a focus on women's and men's reproductive health, rights and women's empowerment. Contraception became just one of the elements to achieve such goals (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). Priority changes also came from serious criticisms of involuntary family planning programs carried out in some Asian countries. The prevalence of HIV/AIDS had become a new priority (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). The shift of priority led to the third global population meeting called the "International Conference on Population and Development (ICPD)", held in Cairo in 1994.

The ICPD Program of Action (1995) de-emphasised demographic targets and highlighted a broader policy agenda, including reproductive health and voluntary family planning to address women's overall reproductive health needs, along with a policy incorporating social and economic measures to empower women and promote their rights (Robinson & Ross, 2007). Family planning became a part of reproductive and maternal health services, which also cover comprehensive issues in sexual reproductive health, including those of adolescents (United Nations, 1995).

even if the organisations use non-US funds or their own funds, with the exception of incest or rape, or when the life of a woman is at risk (IPPF, 2020; Open Society Foundations, 2019).

The Program of Action (POA) provides a detailed roadmap and firmly endorsing the commitment of each country to promoting women's empowerment and ensuring reproductive health and the rights of individuals (United Nations, 1995). To date, governments have implemented the strategy and policies that draw upon the agreements made since Cairo in 1994. The family planning programme has become part of the focused countries' sexual reproductive health strategic plan and policy. Examples of the strategic plans for sexual reproductive health from the selected countries are the National Strategy for Reproductive and Sexual Health in Cambodia 2017-2020; Lao PDR's Strategy and Action Plan for Integrated Service on Reproductive, Maternal, New-born and Child Health 2016-2025; Myanmar's Five-Year Strategic Plan for Reproductive Health 2014-2018; Thailand's 2nd National Reproductive Health Development Policy and Strategy (2017-2026) on the Promotion of Quality Birth and Growth; and Population Strategy of Vietnam to 2030.

4.2 Concepts and Terminology

4.2.1 Family Planning and Contraception

Family Planning is well regarded as one of the most cost-effective public health interventions that help to reduce maternal morbidity and mortality through preventative healthcare service, including commodities (i.e., contraceptive methods) (Starbird, Norton, & Marcus, 2016). Family planning promotes healthy pregnancy and reproductive health through limiting or planning the desired numbers of children; spacing, preventing, and stopping pregnancy (World Health Organization, 2019b). Family planning may also support individuals to fulfil their reproductive preferences, which in return could improve woman's equity and equality, and empowerment; and reduce poverty (World Health Organization, 2019b).

The term "family planning" is not operationally defined. Since the ICPD Program of Action (POA) placed more emphasis on human rights¹¹ rather than population controls¹², the United Nations had finally agreed on the concepts of family planning, which is a component of sexual and reproductive health (United Nations, 1995).

In paragraph B (7.12), family planning is to enable couples and individuals to decide freely and responsibly the number and spacing of their children and to have the information and means to do so and to ensure informed choices and make available a full range of safe and effective method (United Nations, 1995, p. 43)

¹¹Human rights are referred to as the rights that inherently belong to everyone from any background and status (United Nations, 2020).

¹²Population control means attempts or interventions to limit population growth by reducing fertility (Population Reference Bureau, 2019).

In general, family planning and contraception (other terms such as contraceptive methods, family planning methods, and birth controls) have been used interchangeably by health care providers as they are all referred to as deliberate prevention of conception (Seltzer, 2002). It is essential to recognise family planning as a programme that provides contraception, while contraception is a means to facilitate the program (Seltzer, 2002).

According to the POA description, Family Planning aims to provide couples or individuals with the information and counselling regarding family planning methods, choices, and effectiveness, and sexual reproductive health and rights (United Nations, 1995). The POA frameworks also indicate that family planning programmes shall promote family health, wellbeing, and responsibility while remaining respectful to their dignity and right to decide the number, the timing of birth and pregnancy (United Nations, 1995). It is not only a channel to encourage breastfeeding to assist in birth spacing, but it is also meant to reduce and prevent unintended pregnancies and high-risk pregnancies that lead to morbidity and mortality.

In terms of service facilities, family planning should be affordable, acceptable, accessible, and confidential to all. Family planning programmes should enhance the quality of their services, communication, education, and counselling strategies to encourage men to engage and share responsibility in family planning practice (United Nations, 1995).

4.2.2 Sexual Reproductive Health

Reproductive health has been used to describe the health issues related to the reproductive system and safe sex life, while sexual health refers to sexuality and sexual relationship (United Nations, 1995). Sexual reproductive health is not a merged term between reproductive health and sexual health. Instead, the meaning has been added up, generating a more comprehensive concept. Terminology shows the intersection between the two terminologies, which have become the concept of sexual reproductive health (see Figure 12).

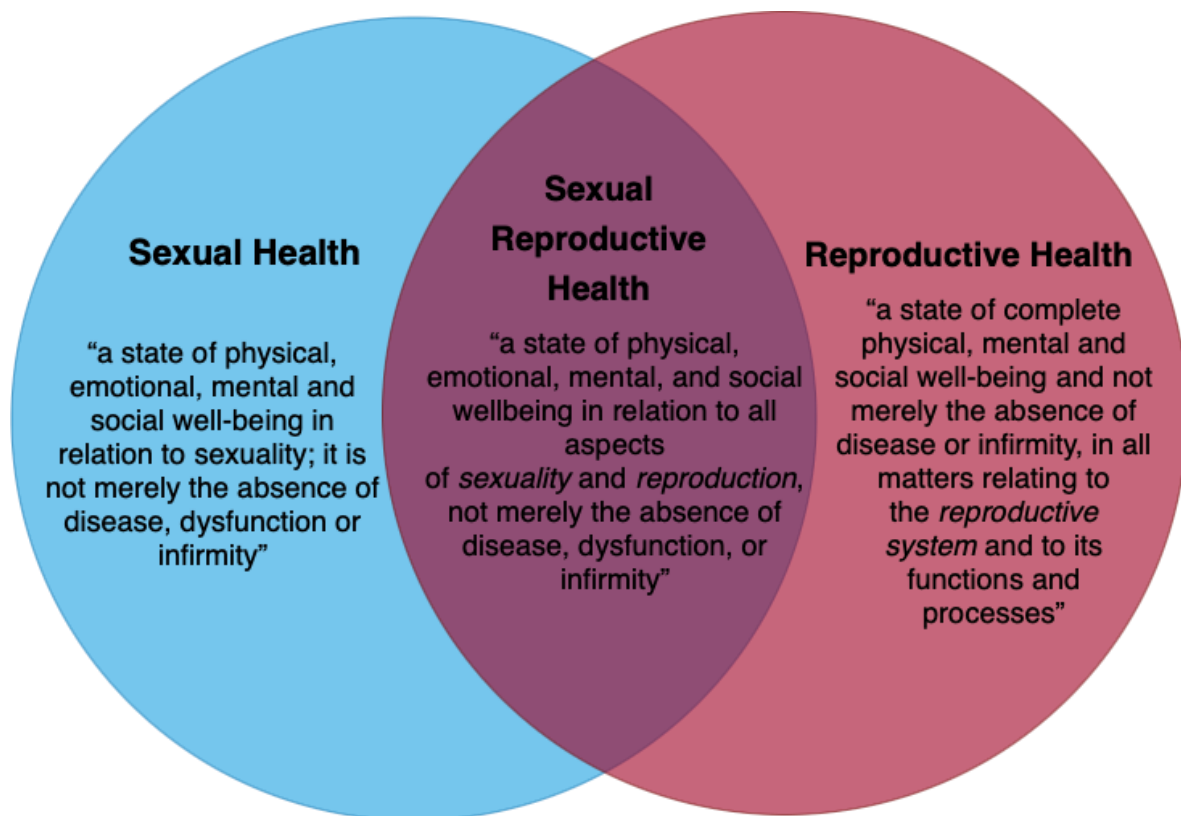


Figure 12 Sexual Reproductive Health Terminology

Note. Adapted from *Report of the International Conference on Population and Development*, Cairo, 5–13 September 1994, by United Nations, 1995. Copyright 1995 by United Nations.

Drawing from the definitions, *reproductive health* care ensures that everyone can obtain reliable, informative sources regarding reproductive systems whilst they can also access essential services and support to promote their reproductive health. In addition, individuals access cross-sectional supports to stand up to sexual violence as well as preventing any other types of discrimination and gender-based violence. In terms of women's reproductive health, the reproductive health care makes sure that all women can privately manage menstrual hygiene with dignity (Starrs, et al., 2018). While *sexual health* care constructively treats sexuality and intimate relationships with the respect that potentially leads to enjoying, safe, and consensual sexual experience without violence and abuse from the significant other. All individuals should be able to gain access to counselling and care regarding sexuality, intimate relationships, psychosexual disorders, sexual dysfunction, and management of reproductive system cancers (Starrs, et al., 2018).

From the definition, sexual reproductive health suggests that individuals have the freedom to decide when, whether, and or how often they desire to reproduce, as well as having a satisfying and safe sex life. The last condition in family planning methods is made available for all individuals to obtain accessible, affordable, acceptable, effective, and safe methods of

their choice to control their fertility congruent with the law. Reproductive health care ensures the right of individuals to access standard healthcare, allowing women to safely manage pregnancy and delivery, along with offering couples the best possible opportunity to raise a healthy baby (United Nations, 1995). Furthermore, recent reproductive health services include infertility prevention and treatment and post-abortion care (Starrs, et al., 2018). The scope of reproductive healthcare is a combination of strategies and services to help minimise or address issues related to the reproductive system. They thus lead to better reproductive health and wellbeing, whilst sexual health is meant to improve personal life and relationships. Within this frame of reference, sexual health care provides counselling and treatment of sexual health issues (for instance, STDs and HIV/AIDS) as well as diseases related to the genitourinary tract system (United Nations, 1995; Starrs, et al., 2018).

To conclude, sexual and reproductive health is a holistic concept of sexuality and reproduction grounded in satisfying intimate relationships with confidence and trust to foster the general wellbeing and esteem of individuals. Because sexual and reproductive health rights are associated with gender parity, and women's and new-born health and wellbeing, it has played a vital role in influencing sustainable development of the economy and of the environment (Starrs, et al., 2018).

4.3 Roles of Family Planning in Public Health Development

The United Nations (1995) claims that populations who are informed about family-planning programmes, regardless of settings, would act responsibly toward their own needs as well as their families and communities. Voluntary family planning programs, a basis of sexual and reproductive health and wellbeing, are highly cost-effective interventions for both micro and macro levels (Sully, et al., 2020). It contributes to long-term socioeconomic growth and benefits for individuals by promoting autonomy in deciding ideal family sizes and reproductive choices which is a basic human right (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012; Sully, et al., 2020).

4.3.2 Enhancing Maternal and Child Health and Wellbeing

The purpose of contraception is to delay, space, limit or prevent the chance of conception and unintended pregnancy, which ultimately helps to lower the need and recurrence of induced abortions either safe or unsafe (Ahmed, Li, Liu, & Tsui, 2012; Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012). Over two decades, statistics have shown that contraceptive use reduced the incidence of maternal mortality by 40% in developing countries through decreasing the number of unintended pregnancies that put women at risk of complications (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012).

Family planning can help to decrease the risk of mortality due to pregnancy-related complications among high-risk or vulnerable mothers¹³. This risk could be reduced by delaying first birth in very young women, who have higher risks of intrapartum complications such as vesicovaginal fistula, prolonged obstructed labour due to immature pelvis, and pregnancy-induced hypertension (Baltag & Chandra-Mouli, 2014). It also helps to prevent obstetric risks such as uterine rupture, which may lead to vaginal bleeding and pregnancy shock in high-parity women and women aged older than 34 (Ahmed, Li, Liu, & Tsui, 2012; Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012; Ganchimeg, et al., 2014).

Further, sufficiently spaced children can live healthier lives than closely spaced children, as mothers have better health and more time to feed and care for them. A study (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012) reported that more careful space of the interval of pregnancy could save the life of the mother and the new-born's physical and mental wellbeing. The finding showed that spacing pregnancy by at least a two-year gap could decrease the risk of neonatal death by 10% and under-five mortality by at least 21% (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012).

4.3.3 Mitigating Poverty and Enhance Economy

Family planning has a direct impact on both micro and macro-economic growth. A study conducted by Canning and Schultz (2012) revealed the significant benefits of family planning and how it affects economics. Family planning can reduce poverty by increasing opportunities for all to pursue higher levels of education, better employment opportunities, higher socioeconomic status and women's empowerment (Canning & Schultz, 2012). Apart from decreasing the risks of maternal and child morbidity and mortality, spacing and limiting births also reduces economic burdens. This is because having a smaller family size means that couples can devote better resources for their children regarding food, healthcare and

¹³ Those who are younger than 18 and older than 34; at high parities; and with short pregnancy interval (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012)

education (Canning & Schultz, 2012; UNFPA, 2010). Consequently, children, especially girls, have more opportunities to attain higher education, which is one of the determinants delaying marriage, leading to a reduction of fertility (Canning & Schultz, 2012). In the interests of a smaller size of family and population, the government could save funds in public services and maintenance, and thus improve national economic development (Canning & Schultz, 2012; Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012; UNFPA, 2010).

One of the principal family planning goals is to prevent unsafe abortion and to provide or refer to safe abortion, where legal. Evidence suggests that unsafe abortion is a burden not only on individuals and families, but it also impacts on the finance and logistics of the health system (Canning & Schultz, 2012; Haddad & Nour, 2009). Emergency care and post-abortion care for women resorting to unsafe abortion requires numbers of medications and treatments for complications, commodities, and coordination, for example, blood transfusions for severe blood loss, oxytocin, anaesthesia, operating rooms, and surgical specialists (Canning & Schultz, 2012; Haddad & Nour, 2009).

4.3.4 Promoting Sexual Reproductive Health and Rights

According to Starbird, Norton, and Marcus (2016), accessing family planning services is a fundamental human right of each individual, which empowers all individuals regardless of gender and age to participate fully and equally in society. Family planning offers all couples and individuals equal rights as well as empowering them to choose when, whether, and how often to have children without judgment and coercion. It also empowers individuals to access counselling and information regarding family planning methods (Starbird, Norton, & Marcus, 2016). With the ability to manage and to have better control over their reproductive choices, family planning enables all individuals, including adolescents, to exercise their rights in return.

Some family planning facilities offer healthcare services beyond family planning and providing contraception. Kavanaugh and Anderson (2013) point out that individuals accessing family planning services are more likely to receive a broader range of health monitoring and diagnosis. They can receive counselling and care related to sexual reproductive health, such as pregnancy testing, STI/HIV tests and treatments, breast examination, cervical smears or screening, and referral for other health and social services (Kavanaugh & Anderson, 2013).

Better yet, contraceptive methods have broader health benefits beyond controlling pregnancy and fertility. Evidence suggests that intrauterine devices (IUDs) can reduce blood loss during menstruation, and thereby reduce the prevalence of anaemia (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012). The benefits of oral contraceptive methods are also documented. They could alleviate menstrual side effects, for instance, premenstrual syndrome, which includes severe menstrual pain, cramps, menstrual migraines, and acne (Kavanaugh & Anderson, 2013). Some methods help to treat the irregularity of menstrual cycles and are associated with the reduced risks of developing reproductive system cancers including, endometrial cancer, ovarian cancer and cervical cancer (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012; Kavanaugh & Anderson, 2013).

4.3.5 Supporting Environment and Sustainable Development Goals

The exponential rise in the global population also has significant impact on the environment. Starbird, Norton, and Marcus (2016) state that “population dynamics, including human population size, growth, density, and migration, are important drivers of environmental and natural resource degradation, including land, forests, biodiversity, and water” (p. 197). In essence, the rapid expansion of population means an enormous increase in production and consumption of food, land, and energy (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012), particularly in developing countries where food and agricultural production are unstable and less advanced. These have put pressure on natural resources, which is one of the leading causes of global climate change (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012; Starbird, Norton, & Marcus, 2016). Environmental degradation may subsequently contribute to humanitarian crises, such as water scarcity or drought and food insecurity (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012). In addition, rapid unplanned urban sprawl affects socioeconomic conditions. Governments may struggle to provide public services such as schooling, healthcare, hospitals, employment opportunities, and other social supports (Bongaarts, Cleland, Townsend, Bertrand, & Das Gupta, 2012; Haddad & Nour, 2009).

Family planning programmes contribute to alleviating these stresses by maintaining a sustainable level of fertility, averting unwanted births, and reducing early and frequent pregnancies (UNFPA, 2010). At the community level, however, smaller households may require fewer natural resources which subsequently reduces the likelihood of environmental exploitation (UNFPA, 2010).

According to Starbird, Norton, and Marcus (2016), a family planning program strongly supports the aims of the 2030 Sustainable Development Goals (SDGs), an ambitious vision towards a more sustainable and all-inclusive society. The SDGs encompass 17 goals and 169 targets, covering a broad range of objectives, social, economic, environmental, health, and equality. The third goal, with 13 health-related sub-goals – specific for the health aspect, which states that it aims to “ensure healthy lives and promote well-being for all at all ages” – and 13 health-related targets (see Figure 13) (United Nations, 2020). While the family planning programme has its place under the third goal, the program also plays a vital part in other goals, for instance, Goal 5, “promoting gender equality and the empowerment of women and girls”. This implies that family planning may directly or indirectly help to move the sustainable development goals closer to reality (United Nations, Department of Economic and Social Affairs, Population Division, 2019c)

3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.
3.1.1 Maternal mortality ratio
3.1.2 Proportion of births attended by skilled health personnel
3.2 By 2030, end preventable deaths of new-borns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.
3.2.1 Under-five mortality rate
3.2.2 Neonatal mortality rate
3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.
3.3.1 Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations
3.3.2 Tuberculosis incidence per 1,000 population
3.3.3 Malaria incidence per 1,000 population
3.3.4 Hepatitis B incidence per 100,000 population
3.3.5 Number of people requiring interventions against neglected tropical diseases
3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease
3.4.2 Suicide mortality rate
3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders
3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol
3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents.
3.6.1 Death rate due to road traffic injuries
3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programme.
3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods
3.7.2 Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group
3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, new-born and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)
3.8.2 Proportion of population with large household expenditures on health as a share of total household expenditure or income
3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
3.9.1 Mortality rate attributed to household and ambient air pollution
3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)
3.9.3 Mortality rate attributed to unintentional poisoning

Figure 13 Sustainable Development Goals, Goal 3 and Sub-goals and Their Indicators

Note. Adapted from *Sustainable Development Goals*, by the United Nations, 2020 (<https://www.un.org/sustainabledevelopment/health/>). Copyright 2020, by the United Nations.

4.4 Family Planning Methods, Advantages and Effectiveness

The World Health Organization states (2015) that individuals are eligible for nearly all contraceptive methods regardless of age, marital status, parity, and health status, for instance, those who were pregnant, diagnosed with cardiovascular diseases, and those living with HIV (World Health Organization, 2015). This signifies that adolescents are not restricted to fewer options, but indeed have a broader range of choices. Over the years, contraceptive technologies have been improving. Consequently, a variety of safe and highly effective methods have become more freely available to satisfy individuals' reproductive desires and to help prevent conception.

Family planning methods could be distinctively categorised by administrations (for instance, oral, injections, insertion into body), components (hormonal and non-hormonal), and the period of actions (short and long acting). Nonetheless, according to the WHO's 2018 Edition of Family Planning: A Global Handbook for Providers, the methods are classified by its acting interval, namely, short-acting contraceptive methods (SACs), long-acting methods (LACs), or permanent methods (PMs).

4.4.1 Methods

According to the WHO (2018), contraceptive methods are divided into two categories: short-acting contraceptive (SAC) and long-acting reversible contraceptive methods (LARC) as further described below (World Health Organization, 2018). The detailed description of family planning methods can be seen in a full list of family planning methods in Appendix 6.

4.4.1.1 *Short-acting contraceptive methods*

- **Oral contraceptive pills:** the method comprises three main subcategories: 1) combined oral contraceptive pills (COCs) which contain low doses of both oestrogen and progestin; 2) progestin-only pills (POPs) containing only progestin; and 3) emergency contraceptive pills (ECPs). There are several types of emergency pills, including the following: ulipristal acetate and ECPs containing levonorgestrel and progestin-only pills: (POPs) with levonorgestrel or norgestrel; combined oral contraceptives (COCs) with ethinyloestradiol and either levonorgestrel or norgestrel (World Health Organization, 2018).
- **Injectable contraceptives:** the injections contain two types of hormones: progestin and oestrogen, which occur as natural hormones, progesterone and oestrogen, in a woman's body. Aside from this, there is also progestin-only of injectable method.

- **Contraceptive patch:** the patch contains progestin and oestrogen that releases daily through skin (transdermal).
- **Barrier methods:** these include vaginal ring, male and female condoms, and diaphragms with spermicide.
- **Fertility Awareness Method:** this includes calendar-based methods, such as the calendar rhythm method and the Standard Days Method®, symptoms-based methods, such as the Two-Day Method®, the basal body temperature ovulation method; and the symptom-thermal method.
- **Lactational Amenorrhea Method (LAM):** this method is based on breastfeeding. It works primarily by preventing ovulation. Frequent nipple stimulation during breastfeeding temporarily prevents the release of the natural hormones that cause ovulation (World Health Organization, 2018)

4.4.1.2 Long Acting/Reversible Contraceptive Methods

- **Implants:** these are small, flexible rods or capsules containing progestin and are placed under the skin of the upper arm. All implants slowly release a progestin. A trained care provider is required to insert and to remove the rods.
- **Intrauterine Devices (IUDs):** this is a contraceptive device that is small and flexible, with either copper or hormone, inserted into the woman's uterus. There are two types of IUDs available: the Copper-IUD, which works by preventing fertilisation and the LNG-IUD (Hormonal IUD) that releases a small amount of the progestin levonorgestrel each day.
- **Sterilisation:** these surgical procedures are intended to be permanent for both men (vasectomy) and women (tubectomy/tubal ligation). A couple must be well-informed and certain in their decision to have no more children (World Health Organization, 2018).

4.4.2 Advantages and Effectiveness

There may be drawbacks for some methods, such as injectable, implants, and IUD (World Health Organization, 2018). These methods need to be delivered by health practitioners and require medical examinations (for IUD). Thus, additional fees and time may occur, and women may not have autonomy either (due to reliance on practitioners) (World Health Organization, 2018). Each method has different mechanisms and effectiveness in preventing unintended pregnancy. According to the World Health Organization (2020c), the measurement of contraceptive effectiveness is by the number of pregnancies per annum that occurred per 100 women who use the method. The effectiveness is categorised into three levels indicating the rates of success or failure: more effective (less than one pregnancy per 100 women), effective (from 1 - 9 pregnancies per 100 women), moderately effective (less than 20 pregnancies per 100 women); and less effective (more than 20 pregnancies per 100 women) (World Health Organization, 2020c).

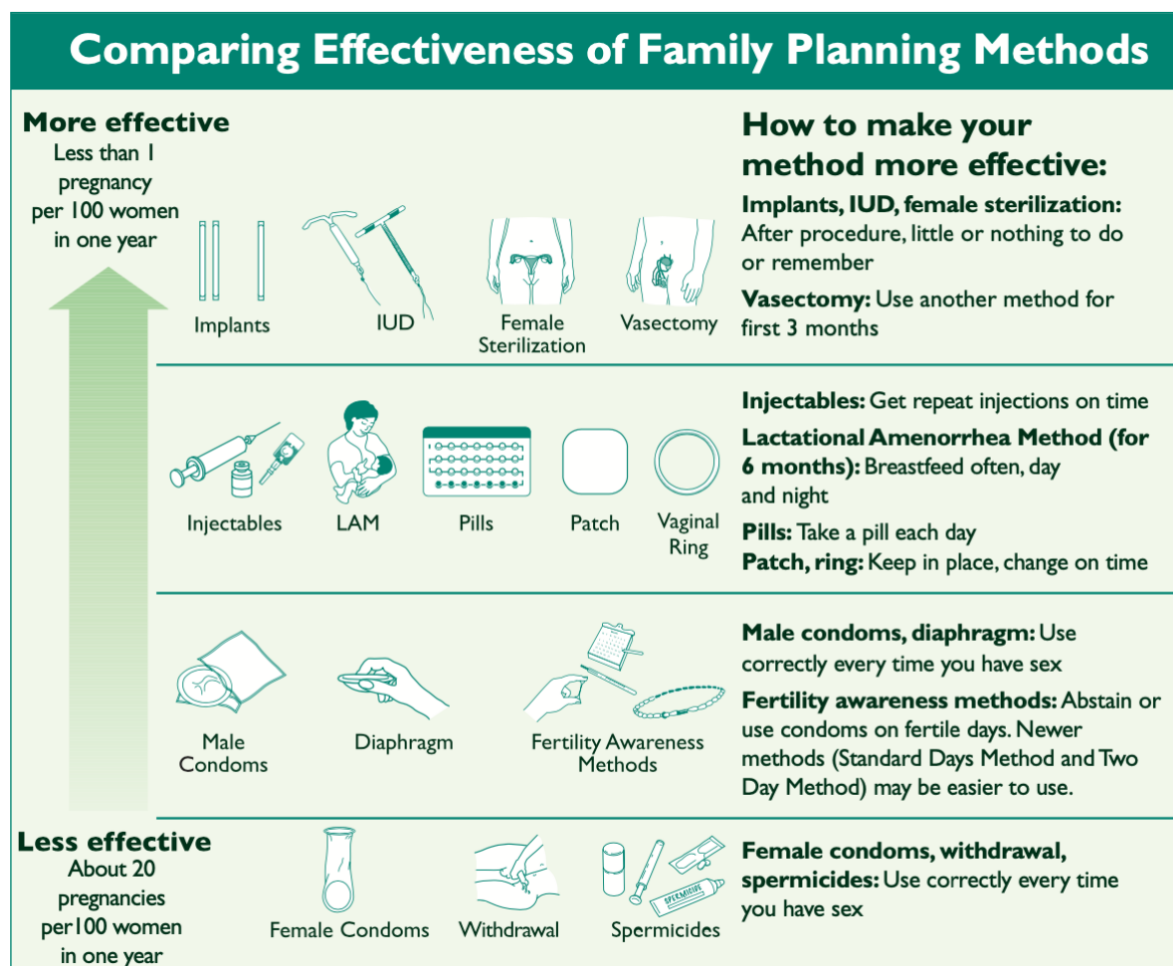


Figure 14 Comparison of Effectiveness of Family Planning Methods

Noted. Adapted from *Family Planning: A Global Handbook for Providers*. World Health Organization, 2018. Copyright 2018 by the World Health Organization. Reprinted with permission.

Chapter 5 Family Planning and Sexual Reproductive Health in the Selected Countries

5.1 Reproductive Trends

The past two decades have shown evidence of a reduction in total fertility rates¹⁴ (TFR) in all the countries under the study. Vietnam has maintained its fertility rate at an ideal replacement level¹⁵, which accounts for 2.0 births per woman from 2000 until 2018. In contrast, Thailand's fertility rate is below replacement rate, which dropped slightly from 1.7 in 2000 to 1.5 in 2010, and the rate has remained the same from 2010 to 2018 (The World Bank Group, 2020b). This is not the case in Cambodia, Lao PDR, or Myanmar, where fertility rates were relatively high in 2000 (3.8, 4.3 and 2.9, respectively) (The World Bank Group, 2020b). Nevertheless, the rate fell steadily to 2.5, 2.7 and 2.2 in 2018, and it is projected to go on declining gradually.

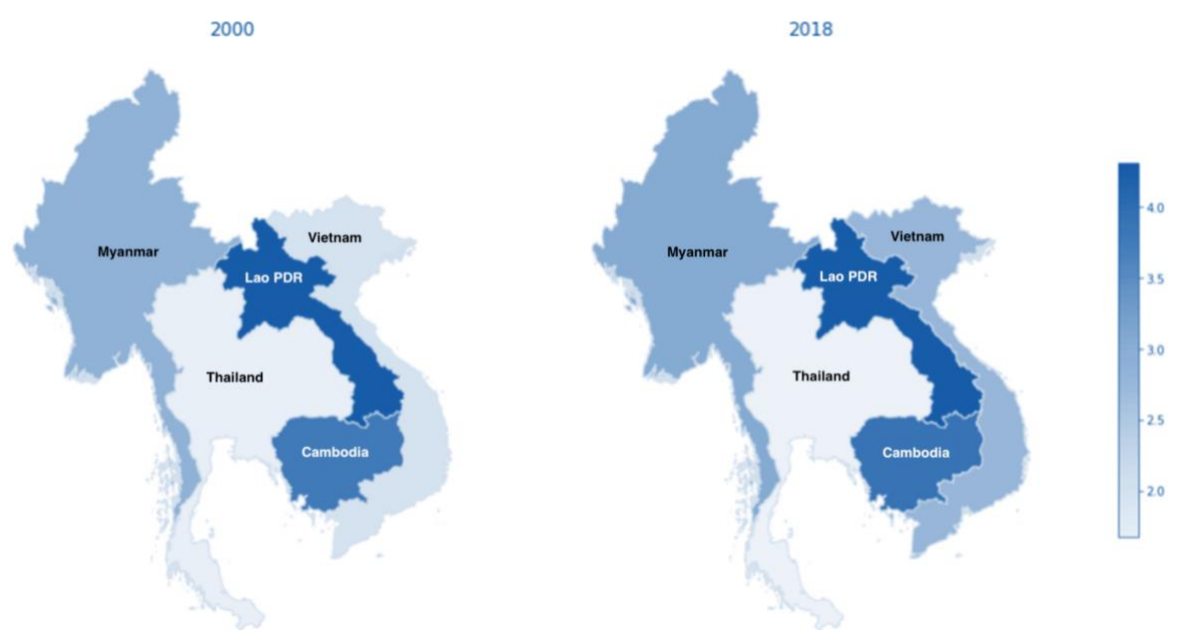


Figure 15 Trends in Fertility Rates from 2000 to 2018 in the Selected Countries

Note: Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0

¹⁴ Total fertility rate is expressed by the number of births per woman (The World Bank Group, 2020b)

¹⁵ Fertility replacement level is approximately 2.1 births per woman (United Nations, 2017)

Despite satisfactory decreases in TFR, the adolescent fertility rate, or adolescent birth rate¹⁶ remains significantly high. The trend over the past decades shows fluctuations (see Figure 16). However, Myanmar and Vietnam have much lower adolescent birth rates compared to Thailand, Cambodia and Lao PDR, which are still experiencing high percentages of adolescent pregnancies. There are at least 44 to 64 births annually for every thousand female adolescents aged 15 to 19 years old in these countries (The World Bank Group, 2020b).

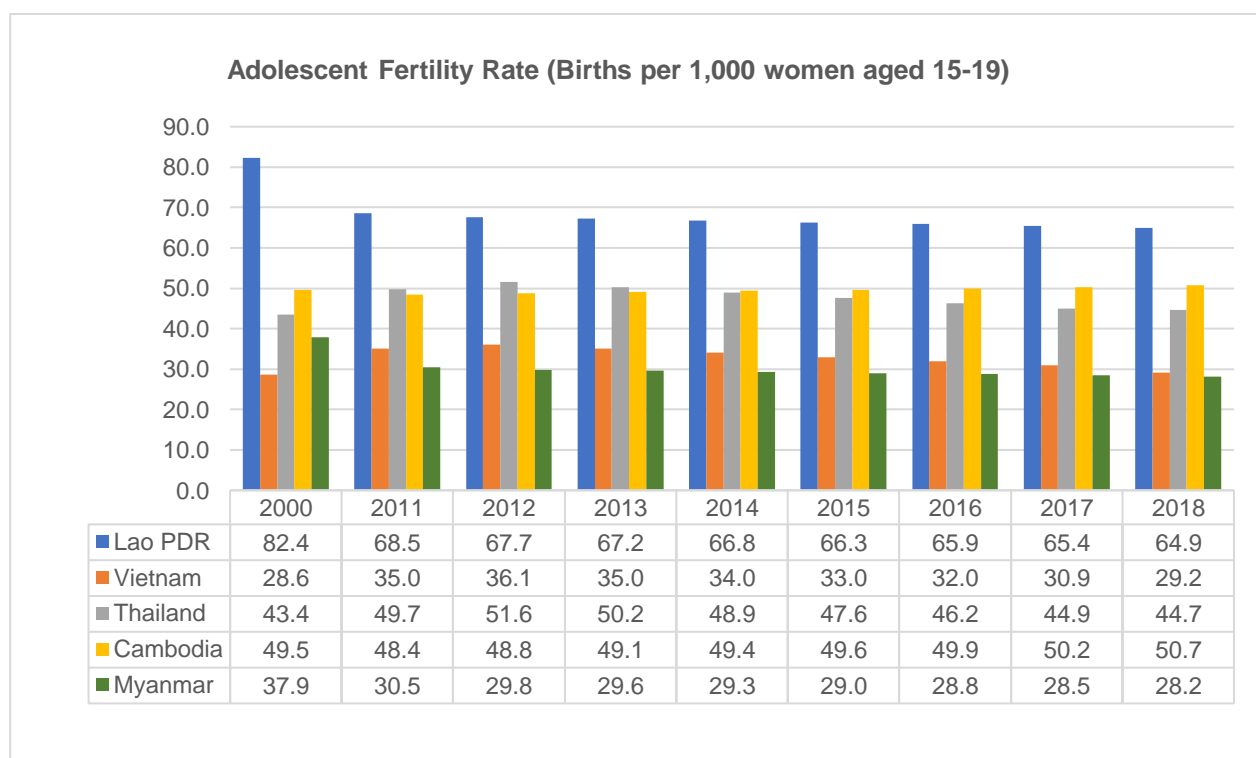


Figure 16 Adolescent Fertility Rate (Births per 1,000 Women Aged 15-19)

Note: Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0

¹⁶ Adolescent fertility rate or birth rate is the birth per women aged 15-19, which is expressed by the number of births per annum per 1,000 women (The World Bank Group, 2020b; United Nations, 2020)

5.2 Contraceptive Trends

Contraceptive usage has experienced an upward trend in the Southeast Asian Region, and it is the same case for Cambodia, Lao PDR, Myanmar, Thailand and Vietnam. From 2012 to 2019, contraceptive prevalence rate among women of reproductive age in the countries of the study was steadily rising from approximately 25% to 30% in Cambodia, 35% to 41% in Lao PDR, 27% to 32% in Myanmar, and 44% to 47% in Vietnam (The World Bank Group, 2020b). It is important to note that modern contraceptive prevalence (mCPR) data for Thailand in 2019 is not yet available. However, the rate was dramatically higher than the rest of countries under study in the same periods (76.9% in 2012 and 78.4% in 2016 and it is projected to be higher in 2019) (The World Bank Group, 2020b).

In relation to the use of contraceptives, Thai adolescents aged 15 to 19 years old who are either married or in a relationship report the highest usage rate amongst the included countries, account for more than two-third of the adolescents (National Statistical Office and UNICEF, 2016). In contrast, almost all married or adolescents in a relationship in Cambodia (95.4%) and Myanmar (93.2%) are not using any contraceptive method (National Institute of Statistics and ICF, 2015) (Ministry of Health and Sports and ICF, 2017). The non-use rates amongst married or in union adolescents in Lao DPR and Vietnam are similar, with more than two-third of the adolescent (Lao Statistics Bureau, 2018), while 61.6% of the adolescents in Vietnam are not using any method (General Statistics Office and UNICEF, 2015).

Relationships between contraception and fertility are inverse. The significant increases in contraceptive use over a decade match with decreased fertility in the same time frame. As the fertility rate continues to decline, the contraceptive prevalence rates¹⁷ in all countries show an increase, and concurrently unmet needs in family planning among married women show a decrease (see Figure 17). For instance, Thailand and Vietnam have a higher rate of contraceptive use, with a lower level of fertility. In contrast, Cambodia, Lao PDR and Myanmar still have a lower rate of contraceptive prevalence, while fertility rates in these countries are higher.

Among the countries under the study, current unmet needs for contraceptive methods are by far the highest in Cambodia and Lao PDR, with 27.6% and 21.2% in 2019 (The World Bank Group, 2020b). The rest of the countries under the study, the unmet needs were below 20% in 2019. Data for unmet needs in Thailand is only available for 2012 and 2016. Nonetheless, the percentage is substantially lower than the other four countries, which accounts for 6.9% in 2012 and 6.2% in 2016. Trends, as shown in Figure 17 demonstrate

¹⁷ United Nations, Department of Economic and Social Affairs, Population Division (2019a) defines contraceptive prevalence as “a proportion of women who are currently using, or whose sexual partner is currently using, at least one method of contraception, regardless of the method being used”

substantial increases in modern contraceptive prevalence rates and a gradual decrease in unmet needs for contraception in all countries. It should be noted that, due to the unavailability of Thailand's 2019 data, the graph only uses existing data to enable comparison and illustrate the inverse relationship.

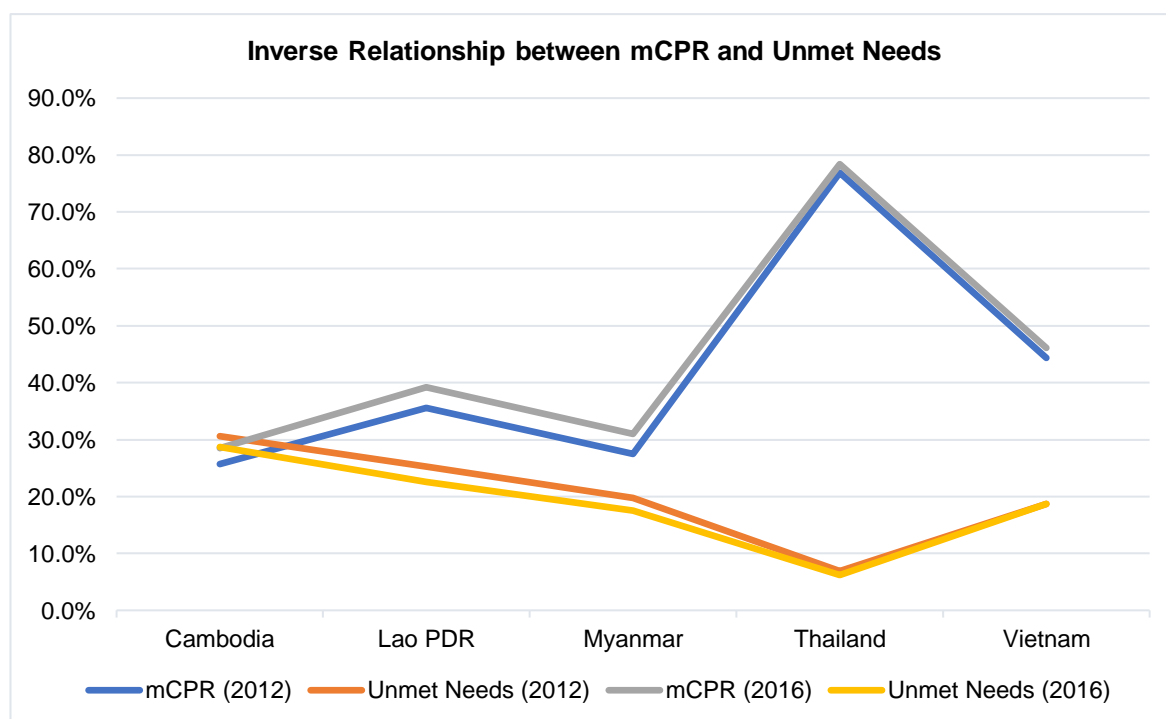


Figure 17 Inverse Relationship Between mCPR and Unmet Needs in Contraception

Note: Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0

Many contraceptive users are using modern contraceptive methods. Amongst these users, preferred modern contraceptive methods are varied in the countries of study. The pill, injectable contraception and the intrauterine device (IUD) are the three most popular modern methods in the focused countries of study. In Cambodia, Lao PDR and Thailand, the most common method used is the pill which accounts for 45.3%, 55.4% and 35.3%, respectively. In contrast, injectable is most preferred method in Myanmar, accounting for 53.7%, while the intrauterine device (IUD) is the most common method in Vietnam (49.2%). Further details of the contraceptive methods mix in the studied countries are illustrated in Figure 18.

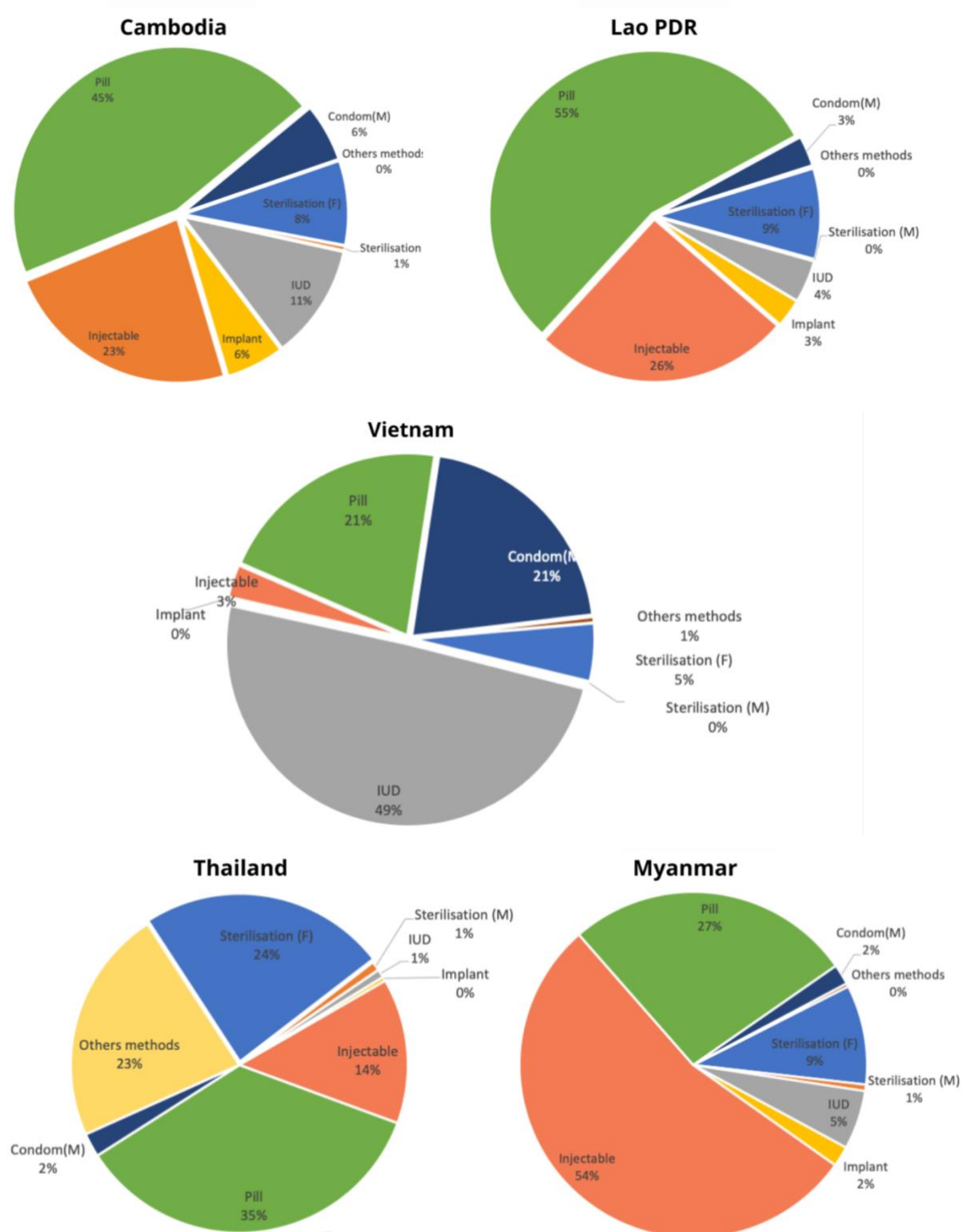


Figure 18 Contraceptive Method Preferences in the Countries Under Study

Note: Adapted from FP2020 Focus Countries, by Track2020 (2020).

(http://track20.org/pages/participating_countries/countries.php). Copyright 2020 by FP2020.

5.3 Adolescent Sexual Health Issues

The magnitudes of unmet needs in family planning among women in their productive years in the countries under study have shown a decline. However, information about the demands of adolescents remains limited. The lack of youth-friendly clinics is one of the most challenging barriers for most young people from the focused countries (UNFPA, UNESCO, & WHO, 2015; UNICEF, 2016). Holistic physical, mental, emotional, and cognitive development in adolescence poses unique risks to adolescent sexual reproductive health and behaviours. This affects the actions of adolescents on the choices in their sexual life.

5.3.1 Adolescent Sexual Behaviours and Barriers

Adolescents may jeopardise their sexual reproductive health if they practise sexual intercourse with little access to essential services and awareness of safe sex information (Baltag & Chandra-Mouli, 2014). Unsafe sexual behaviours may include inconsistent condom use, sexual activity without any contraceptive use, and multiple partners. These practices may expose them to sexually transmitted infections (STIs) including HIV/AIDS, to early or unintended pregnancies, which potentially lead to unsafe abortions, and to early childbearing, as well as sexual coercion (Baltag & Chandra-Mouli, 2014).

Surveys in the selected countries show diverse trends in adolescents' first engaging in sexual intercourse. The proportion of early sexual debut in Cambodia, Myanmar and Vietnam is not substantial. In Vietnam, where the total proportion of secondary school students who ever had sexual intercourse is 5.7% (7.1% of males and 4.4% females) (World Health Organization, 2013). Cambodia's National Institute of Statistics (2015) reports that 1.4% of females and 0.3% of males who are 15-19 years old had had sexual intercourse by the age of 15. Similarly, adolescents in Myanmar do not expose themselves to sexual activity at a young age, as the survey reports that less than 1% of young people aged 15-19 have ever had sex (Ministry of Health and Sports and ICF, 2017).

In contrast, Thailand and Lao PDR report higher percentages of early sexual activity amongst adolescents. The school survey in Thailand reports that 18.6% of secondary school students (aged 13-17) had had sexual intercourse, with a significantly lower proportion of female students who had sexual intercourse than their male counterparts (14.2% and 23.7%, respectively) (World Health Organization, 2017a). Half of these male students had sex before the age of 14, while the number of female students was substantially lower (25.9%). In Lao PDR, the school survey (2015) indicates that 15.1 % of students aged 13-17 had had sexual intercourse. Male students are over two times higher than their female counterparts (20.4% and 9%). The prevalence of condom usage in their recent sexual intercourse amongst these

students in both Thailand and Lao PDR is almost the same, namely 63% and 63.5%, respectively (World Health Organization, 2017a; World Health Organization, 2015).

The social and cultural context could make safe sex practice more challenging for adolescents in the focused countries. Buying condoms or other contraceptive methods is commonly considered to be shameful and stigmatised because premarital sex is socially unacceptable, and sex is a taboo topic (Lao People's Revolutionary Youth Union and United Nations Population Fund, 2014; UNICEF Thailand, 2016; Thien, 2015). In addition, the cost of contraception and the lack of privacy when accessing sexual reproductive health services are other challenges for many adolescents (UNICEF Thailand, 2016).

In some relationships, women who are much younger than their partners might have less power than their partners in negotiating safer sexual activity by requiring the use of contraception or condoms (Darroch, Woog, Bankole, & Ashford, 2016), especially, those who are in long-term relationships or married, as condom-free sex implies trust and intimacy (Ministry of Women's Affairs, 2014). Also, consensual sex, an uncommon concept which is ignored, is not widely recognised in the media and television in the countries under the study. In Laos, one in every five young women reported that they have been coerced into sex by a partner (Lao People's Revolutionary Youth Union and United Nations Population Fund, 2014). Women are less likely to negotiate consent because they are regarded as inferior to men and expected to be sexually submissive (Ministry of Women's Affairs, 2014). These cultural norms impact on the sexual reproductive health and rights of young individuals, as well as discouraging them from seeking any kind of contraception and service.

5.3.2 HIV/AIDS Awareness

None-users of contraceptives are at risk of contracting HIV and other sexually transmitted infections. One of the essential strategies to preventing HIV infection is raising awareness and providing individuals with accurate information on how it is transmitted (General Statistics Office and UNICEF, 2015; Lao Statistics Bureau, 2018). This approach will equip them with fundamental tools to protect themselves from infections and maintain their sexual health and wellbeing. Overall, awareness of HIV amongst people aged 15-25 is almost universal in Cambodia (97%), Myanmar (90%), Thailand (96%) and Vietnam (96%) (Ministry of Health and Sports and ICF, 2017; National Statistical Office and UNICEF, 2016; General Statistics Office and UNICEF, 2015), but in Lao PDR, less than two-third have heard about HIV/AIDS (Lao Statistics Bureau, 2018). Even so, despite a lower awareness, the prevalence of HIV in Lao PDR is the lowest, and at the same time, other studied countries have also experienced a decline (see Figure 19).

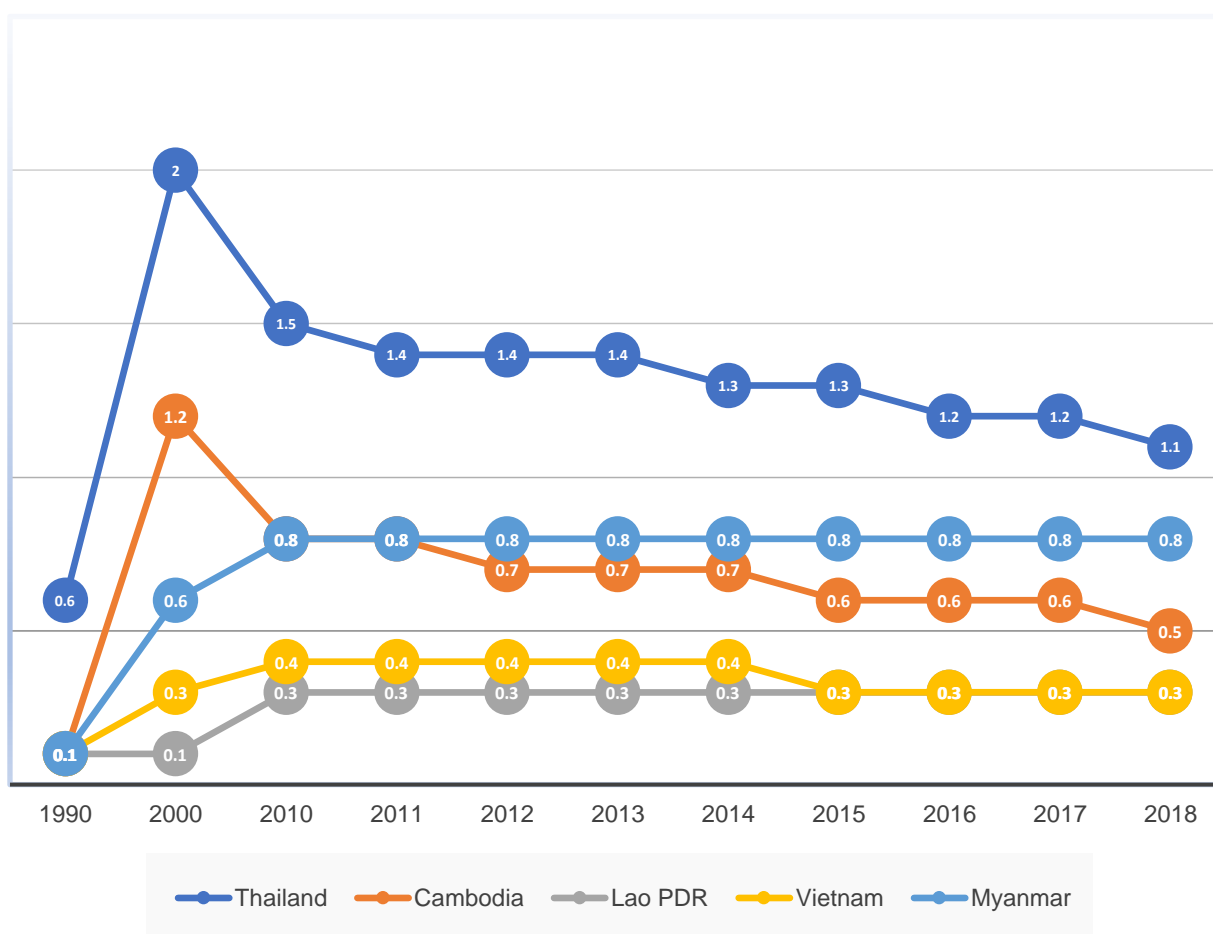


Figure 19 Total Prevalence of HIV (% of Population Aged 15-49) From 1990 - 2018

Note: Adapted from *World Bank Open Data*, by the World Bank Group, 2020b (<https://data.worldbank.org/?locations=KH-LA-MM-TH-VN>). CC BY 4.0

In Vietnam, nearly 90% of young people aged 15-24 knew that using a condom every time is the main way to prevent HIV transmission, and 80% of this group knew of the two main ways to prevent HIV transmission: having only one uninfected intimate partner and using a condom every time (General Statistics Office and UNICEF, 2015). Similarly, the majority of young people age 15-24 in Cambodia and Thailand are aware that the chances of contracting the virus can be reduced by using condoms and limiting sexual intercourse to one uninfected partner (approximately 80% in Cambodia and 83% in Thailand) (National Institute of Statistics and ICF, 2015; National Statistical Office and UNICEF, 2016).

However, in Myanmar and Lao PDR, the number of young people aged 15-24 who can identify ways of preventing sexual transmission of HIV is significantly lower. Both countries have nearly the same statistics, of which men (58.8% in both countries) are more likely than women (48.2% in Myanmar and 48.6% in Lao PDR) to know that HIV can be prevented by using condoms every time and limiting sexual intercourse to one uninfected partner (Ministry of Health and Sports and ICF, 2017; Lao Statistics Bureau, 2018).

5.3.3 Impacts of Adolescent Pregnancy on Health and Wellbeing

One of the consequences of an early sexual debut with unmet needs in contraception is early or adolescent pregnancy, which has been continuously challenging public health issues. Data suggest that as many as 6 in 10 adolescent pregnancies in Asia and the Pacific are unplanned and mistimed (UNFPA, UNESCO, & WHO, 2015). Studies indicate that contributing factors to unintended pregnancies are limited autonomy in sexual reproductive health choices; contraceptive non-use and lack of ability to negotiate to use contraception with partners; reluctance and low decision-making power to access health care services; and low levels of literacy in sexual reproductive health (Sychareun, et al., 2018; Rizvi, Williams, & Hoban, 2019).

Adolescent pregnancy poses health risks to the mother and her child. Evidence suggests that adolescents have higher risks of pregnancy complications than women in older age groups (Gibbs, Wendt, Peters, & Hogue, 2012; Baltag & Chandra-Mouli, 2014). Adolescents are not in a ready condition to bear children and they are more likely than adult mothers to experience intrapartum complications such as prolonged, obstructed labour due to an immature pelvis (Baltag & Chandra-Mouli, 2014), pre-eclampsia, eclampsia, puerperal endometritis and systematic infections (Ganchimeg, et al., 2014). The risks of early pregnancy also impacts their infants. For example, a younger maternal age is associated with low birth weight and preterm birth, severe neonatal conditions, which lead to neonatal mortality and morbidity (Gibbs, Wendt, Peters, & Hogue, 2012; Baltag & Chandra-Mouli, 2014).

Aside from health aspects, adolescent pregnancy will probably have socioeconomic consequences, for instance, barriers to education because of being forced to drop out or lack of support to continue schooling during pregnancy. Even with sufficient support, they might not want to pursue their studies to avoid facing serious ostracism from their peers and the parents of their peers as well as their teachers (UNICEF, 2016). All these combined, adolescent mothers may be prone to mental health issues. Compared to pregnant and postpartum adult women, studies reveal that pregnant adolescents are more likely display symptoms such as substance use disorders, anxiety, psychotic and major depressive disorders (Siegel & Brandon, 2014; Dillon, 2014; Bahk, Yun, Kim, & Khang, 2015).

5.3.3.1 Early Marriage and Childbearing-rearing

Another sexual reproductive health issue amongst adolescents is child marriage¹⁸, which is still common in the countries under study. Early marriage and early pregnancy are interrelated. Adolescent girls ending up in early marriage would usually become mothers early and have more children, but they are less likely to receive maternal health care services than those who get married later (Baltag & Chandra-Mouli, 2014; Darroch, Woog, Bankole, & Ashford, 2016). However, in some cases, child marriage is not coercion; rather it is basically a solution for unintended pregnancy amongst adolescents in some cultures (UNICEF, n.d.).

Whether marriage is circumstantial or not, child marriage brings increased risks in sexual reproductive health. As mentioned previously, pregnancy amongst adolescents puts women at higher risks. Amongst the focused countries, the prevalence of child marriage is the lowest in Vietnam, which is 11.1% of women married before their 18th birthdays and less than 1% of women married before turning 15 (General Statistics Office and UNICEF, 2015). However, data shows that Cambodia, Lao PDR, Myanmar and Thailand also have a high rate of early marriage. The Lao Statistics Bureau (2018) reports that nearly one-third of Lao girls are married before their 18th birthday, and 8.4% of adolescent girls are married before the age of 15, while one-fourth of women in Cambodia get married before the age of 18 and up to 5% before their fifteenth birthday (National Institute of Statistics and ICF, 2015). Myanmar and Thailand have a similar prevalence, with one in every five women married before their eighteenth birthday (Ministry of Health and Sports and ICF, 2017; National Statistical Office and UNICEF, 2016). Despite the lower prevalence, young people in Myanmar are still concerned about the issue of early marriage in their society. In the report, *Nationwide Youth Information Corners* (YIC) (Ministry of Health and Sports, 2017), 46% of the key informants of YIC and 47% of young participants expressed their concern toward early marriage as it is one of the top three issues among young people, beside alcohol consumption and unemployment.

While the incidence of very early childbearing (birth before age 15) is low in all countries (less than 1 - 2%), childbearing among older adolescents (giving birth before age 18) has been more predominant. Less than 10% of women in Myanmar, Thailand and Vietnam had begun childbearing before the age of 18 (Ministry of Health and Sports and ICF, 2017; National Statistical Office and UNICEF, 2016; General Statistics Office and UNICEF, 2015). On the other hand, Cambodia and Lao PDR have higher rates of childbearing which account for 10.5% and 18.4%, respectively (National Institute of Statistics and ICF, 2015; Lao Statistics Bureau, 2018).

¹⁸ Child Marriage is referred to as a formal marriage or union of children under the age of 18 (UNICEF, n.d.).

5.3.3.2 Induced and Unsafe Abortions

Abortion is one of the leading causes of maternal death worldwide. Yet, more than half of unintended pregnancies (56%) ended up in abortion (Singh, Remez, Sedgh, Kwok, & Onda, 2017). In principle, induced abortion¹⁹ is a safe procedure when operated by qualified practitioners following the World Health Organization guidelines (World Health Organization, 2019b). In reality, however, young women with unintended pregnancies are more likely to seek a clandestine abortion, which is usually unsafe, to avoid facing social stigma and criticism resulting from public condemnation of abortion, and because of legal restrictions on abortion and lack of availability (World Health Organization, 2011).

The characteristics of unsafe abortion include the following: 1) the absence of pre-abortion counselling; 2) a procedure (for instance, dilatation and curettage) performed by unskilled and untrained practitioners; 3) unlicensed health facilities with unhygienic conditions; 4) self-induced abortion by taking hazardous substances or traditional medicine; 5) pummelling women's abdomens and insertion into the uterus of a foreign object or substance such as a traditional concoction either by the woman herself or the practitioner; and 6) incorrect abortion medication prescribed by professionals without providing sufficient instruction and follow-up (World Health Organization, 2011; World Health Organization, 2019b).

Women who have undergone an unsafe abortion might experience life-threatening post-abortion complications. According to the study by Say et al. (2014), the major causes of maternal deaths worldwide are abortion and haemorrhage which accounted for 8% and 27.1%, respectively. The major complications are infections due to unhygienic practice, injury to the genital tract or internal organs caused by inserting foreign objects into the vagina and uterus, incomplete abortion, and haemorrhage (World Health Organization, 2019b). Morbidity is a much more common consequence of unsafe abortion than mortality but is determined by the same risk factors which includes haemorrhage, sepsis, peritonitis, and trauma to the cervix, vagina, uterus, and abdominal organs (Grimes, et al., 2006). Furthermore, research suggests that adolescent girls or women in general who resorted to abortion carry a lifetime stigma (Norris, et al., 2011). Abortion, as either an unsafe or safe procedure, is most likely to cause trauma for the mother physically, mentally, and emotionally (Norris, et al., 2011).

¹⁹ Induced abortions are carried intentionally and may be performed for reasons such as a pregnancy resulting from rape or incest, to prevent an abnormal or deformed child, saving maternal life or wellbeing, and/or for socioeconomic reasons (The Editors of Encyclopaedia Britannica, 2019).

In conclusion, abortion can put women's health and wellbeing in jeopardy, and in a worst-case scenario, can lead to death of the recipient. Thus, preventing unintended pregnancy, especially amongst adolescents, is crucial for public health development. Reducing the prevalence of unplanned pregnancy results in a corresponding reduction in abortion and pregnancy-related complications, enhances maternal and child health and wellbeing, as well as increasing socioeconomic opportunities.

5.4 Family Planning Programme Contexts, National Strategies and Action Plans

The countries under study are committed to achieving the UN 2030 SDGs to reduce maternal and child mortality and improve sexual reproductive health outcomes. The commitments are evident in their national policy and action plans as well as their concerted efforts to collaborate with international organisations. This section describes the family planning programs in the countries under study, which are integrated into the sexual reproductive health strategies aiming at contraceptive usage and promotion of sustainable fertility rates.

5.4.1 Cambodia

Cambodia first adopted their Birth Spacing Policy in 1995 (Cambodian Ministry of Health, 2017). The family planning programme was promoted under the Health Strategic Plan of 2008 and the Fast-Track Initiative of 2010, which had accentuated the significance of long-term contraceptive methods to achieve the Millennium Development Goals (MDGs) on reproductive health. Recently, the government has outlined priorities for sexual reproductive health under the 2017-2020 National Strategy for Reproductive and Sexual Health (RSH). The strategy contributes to the accomplishment of the Fast-Track Initiative Road Map for Reducing Maternal and New-born Mortality 2016-2020 and the Health Strategic Plan 2016-2020 (Cambodian Ministry of Health, 2017). Additionally, these strategies and initiatives aim to address the unfinished agenda of the MDGs and work towards the Sustainable Development Goals (Cambodian Ministry of Health, 2017). As stated in the current strategy and action plan in Cambodia, the goal for reproductive and sexual health is to enhance Cambodian people's health and wellbeing by improving the SRH status and all individuals' rights.

The 2017-2020 National Strategy for Reproductive and Sexual Health in Cambodia has six principal goals: 1) increasing FP service and availability; 2) increasing the availability and utilisation of LAPs; 3) increasing post-partum FP service and availability; 4) ensuring the security of FP commodity; 5) strengthening public-private sector partnership in quality FP service provision and reports; 6) reducing traditional FP methods use. There are additional sub-goals under these goals which are outlined in Appendix 1.

5.4.2 Lao PDR

The family planning programme in Lao PDR is part of the Hygiene and Health Promotion Programme, which is overseen by the Department of Hygiene and Prevention, Ministry of Health. By 2020, the government pledged to increase contraceptive prevalence rate to 65% from 42% in 2018 and to reduce the percentage of unmet needs in modern methods for women of reproductive age from 21% in 2019 to 13% in 2020. (Family Planning 2020 [FP2020], 2020a). The government will expand the coverage of family planning services in health facilities at the district level, particularly for long-acting methods, for instance, implants and IUDs (FP2020, 2020a).

The Lao Ministry of Health is reviewing their Reproductive Health Policy to promote accessible family planning services and for the sexual and reproductive health of all citizens (FP2020, 2020a). However, the current strategic plan is the National Strategy and Action Plan for Integrated Service on Reproductive, Maternal, New-born, and Child Health 2016-2025 (RMNCH). The overarching goal of the RMNCH Plan is to “improve the reproductive health status and reduce maternal, neonatal and child mortality and morbidity including malnutrition in Lao PDR” (Ministry of Health , 2016). It identifies the priority of services and activities as well as the health system and information management to be implemented both at the national and sub-national levels. The action plan has laid out eleven strategic and specific objectives and sub-objectives (see Appendix 2). The first goal, which is related to sexual reproductive health, aims to strengthen reproductive health services by improving health information and to increase the utility of the service for all.

Furthermore, the Maternal and Child Health Centre (MCHC) and the Centre for Information and Education for Health (CIEH), Ministry of Health have partnered with an international organisation (Population Survey International) to develop digital resources to communicate sexual reproductive health and rights information to the audience at any age (FP2020, 2020a). The website is called “Huk Mi Plan (ຮັກມີແຜນ)” which is translated as “Love has a plan”. The initiative provides educational resources relevant to sexual reproductive health, including contraception within the websites. It promotes alternative reproductive health counselling approaches by engaging them via Facebook and a hotline that helps to link individuals with qualified providers (Huk Mi Plan, 2019). The sources also provide a series of educational videos in other ethnic languages aside from the Lao language, such as Hmong, Ravae, Khmu, and Akha (FP2020, 2020a).

5.4.3 Myanmar

In 1991, a pilot Family Planning program was established in one township in Myanmar, and birth spacing methods became available in the same year (World Health Organization, 2016a; Ministry of Health and Sports, 2018). Since then, the project continues to expand from 33 townships in 1995 to 117 in 2001, and most recently by 2014 it covered 164 out of 330 townships (Ministry of Health and Sports, 2018). The Myanmar government has increased the health budget for the family planning program since 2012, and in 2014 the government received contraceptive commodity support from UNFPA, which was worth USD 5.2 million. Additionally, the Maternal and Reproductive Health Unit of Ministry of Health and Sports (MOHS) received support from UNFPA and John Snow Inc. in 2013 to initiate a Reproductive Health Commodity Logistic System (RHCLS) to supply hard-to-reach communities, and in 2018 it reached 115 townships (Ministry of Health and Sports, 2018).

The Myanmar government acknowledges the importance of family planning in public health development. The government is committed to increasing the rate of contraceptive prevalence from 50% in 2015 to above 60% by 2020, while also bringing down to less than 10% of the unmet needs. Myanmar also aims to maximise usage of long-acting permanent methods (LAPMs) by decentralization to district level (Family Planning 2020 [FP2020], 2020b). In 2018, the government published The Family Planning Guideline for Service Providers as a guide for family planning service provider to incorporate human right aspects (Ministry of Health and Sports, 2018).

According to the Self-Reporting Questionnaire, the Ministry of Health and Sports is finalising the 2019 National Sexual Reproductive Health Right Policy (FP2020, 2020b). In the policy, the objective of Myanmar's family planning programme is:

All individuals of reproductive age, regardless of marital status, ability or special entity will have equitable access to quality and inclusive Family Planning information, commodities, and services and will have the freedom to decide on the desired number of children and determine the healthy timing and spacing of pregnancies (FP2020, 2020b).

As the document is not publicly available, the Five-Year Strategic Plan for Reproductive Health 2014-2018 is used to outline Myanmar's key reproductive health strategy. The overarching goal of the strategic plan is to achieve a better quality of life of Myanmar citizens by committing to enhance the reproductive health status of all individuals, including adolescents (Ministry of Health Myanmar, 2014). To achieve this strategic plan, the Essential Package of Reproductive Health interventions has been employed with a supplement of Basic Health Services. The intervention components cover a wide range of reproductive health and sexual health care and advice about pregnancy, delivery, postnatal and new-born care, birth spacing or family planning methods, reproductive tract infection (RTI), STI/HIV, adolescent and youth reproductive health (AYRH), screening and treatment of cervical cancer as well as investigation and management of infertile couples (Ministry of Health Myanmar, 2014). Appendix 3 describes the details of goals and Essential Package of Reproductive Health Interventions, which outline the activities to be undertaken at different levels: family and community levels, Rural Health Centres and Sub-centres, and Maternal and Child Health Centres; station and township hospitals.

The government has ensured that adolescents and young people should have access to sexual and reproductive health information. In the digital era, smartphones and the internet are more accessible across Myanmar, and the mobile application could reap the benefit of reaching a wider audience in both urban and rural landscapes. As such, in 2017, UNFPA and the Ministry of Health and Sports developed a youth mobile application that provides facts from a trusted source about sexuality education (UNFPA, 2017). It is a platform that enables young individuals to learn about sensitive issues with confidentiality and privacy.

The application is called “Love Question, Life Answer (အိမ်ထောင်စာ ဘဝအဖြေရှာ)”, which aligns with principles of Comprehensive Sexuality Education. It claims to address taboo topics about love, sex, relationship and reproductive health, which include but are not limited to 1) safe sex and contraception; 2) early marriage and unwanted pregnancy; 3) sexually transmitted infections and HIV; 4) puberty and menstruation; 5) gender and body dilemmas; and 6) drug abuse and alcohol problems (UNFPA, 2017; Love Question Life Answer, 2020). The application is now available across states and regions to deliver accurate sexual and reproductive health information and refer people to the right service as needed (Love Question Life Answer, 2020).

5.4.4 Thailand

Thailand introduced its first population policy in the 1970s, and it is renowned for its successful family planning programme in the Southeast Asia Region (World Health Organization, 2016a). Several factors contribute to its successful and sustainable programme. The first one is linked to the family planning campaigns by multiple agencies such as the Department of Health, NGOs and the Population and Community Development Association. Beside innovative marketing campaigns, Thailand has introduced more contraceptive choices. The network expanded to the private sector to ensure that contraceptive distribution is available in the hard-to-reach areas, albeit the sector charges a nominal fee. Another critical factor is the autonomy of love choices: individuals are responsible for choosing their own spouses, when to get married and when to bear a child as well as how many children they want to have (World Health Organization, 2016a). Better yet, improved educational opportunities and literacy for women have resulted in marked increases in female employment, leading to more equal decision-making in a couple’s relationship and marriage. Thailand’s religious beliefs do not prohibit contraceptives. Thus, the campaign did not affect the moral values (Seltzer, 2002).

The current family planning programme holistically incorporates reproductive health elements, for instance, premarital counselling that includes HIV and genetic disorder testing, and breast screening and cervical screening (World Health Organization, 2016a). The programme is guided by the 2nd National Reproductive Health Development Policy and Strategy (2017 - 2026) on the Promotion of Quality Birth and Growth. The details are outlined in Appendix 4. One of the demographic issues in Thailand is below-replacement fertility which results in population implosion and might gradually lead to eventual population extinction (United Nations, 2017). Therefore, the government’s approach focuses on retaining fertility rates at a replacement level, while also emphasising the prevention of unintended pregnancies and births, as stated in the following policy:

The government supports and promotes voluntary births, in which every pregnancy is planned and intended, to ensure that there are sufficient births to replace the population. Having parents who are well-prepared in all aspects will lead to a safe delivery and a healthy new-born who will have a quality upbringing (Ministry of Public Health Thailand, 2016, p. 10)

In terms of reaching adolescents and youth, Thailand developed several mobile applications for communicating sex and sexuality education such as “Me Sex (มีเซ็กส์)” which means “Having Sex” in English (UNICEF, 2019). This application is designed to help young people to learn about sexual health and well-being. It provides information about contraceptive methods, STIs, with advice and discussion on gender issues as well as a forum for queries and discussion among teenagers. Furthermore, there are several games related to contraceptive use and sex, for example, JUDIES, Love N LOL and Love Not Yet (UNICEF, 2019).

5.4.5 Vietnam

The family planning programme in Vietnam began unofficially in 1963 and was made official through a decree of the Council of Ministers in 1988 and further reinforced in 1993 (Ministry of Health and UNFPA, 2017). The target population was married women with a two-child per couple policy, with vigorous campaigns on promoting IUDs and female sterilisation throughout the 1980s to 1990s. As a result, amongst the mix of other contraceptive methods, IUDs received the most attention (see Figure 18) (Ministry of Health and UNFPA, 2017). Family planning services were delivered under the Maternal and Child Health (MCH) network in both national and provincial levels such as the Provincial Centre for Reproductive Health (PCRH), the District Unit for Family Planning and Nutrition, and the commune health centres (CHC) (Ministry of Health and UNFPA, 2017). Although these authorities are the primary family planning service providers, the private sector also supports the same roles in providing pills, condoms, IUDs and injectable contraception (Ministry of Health and UNFPA, 2017).

The Vietnamese government is committed to providing universal access to family planning, and it pledges to increase modern contraceptive prevalence rate (mCPR) from 65.4% to 70% for married women in their reproductive age (15-49 years old) by 2020 (Family Planning 2020 [FP2020], 2020c). The government received funds from Marie Stopes International to implement the project called "Enhancing sustainable access to quality family planning and reproductive health care services in Vietnam for the period 2015 - 2020". The organisation collaborates with the Vietnamese government to implement the model “Strengthening Public Health Capacity for 2017-2020” by running workshops in the provinces and at central levels (FP2020, 2020c). The training courses cooperating with the MSI include contraceptive management logistics, consultancy skills on screening for prenatal and neonatal

diagnosis, orientation of the Population program in the new period program and generating policy and law on social and health insurance (FP2020, 2020c).

The government has released the new Population strategy of Vietnam to 2030, which outlines the national strategic plan for population development and reproductive wellbeing (Ministry of Industry and Trade, 2020). The general objectives of Vietnam's population strategy are "to maintain firmly the replacement fertility level; bring the sex ratio at birth to a natural equilibrium; effectively take advantage of the golden population structure; adapt to aging population; reasonable population distribution and improvement of population quality, contributing to rapid and sustainable national development" (Ministry of Industry and Trade, 2020). The strategy has eight principal goals to guide population development. Goal 1 and 4 are related to family planning, reproductive health and maternal and child wellbeing (see Appendix 5).

Chapter 6 Research Findings

This chapter presents an analysis of the literature review, which describes the knowledge, attitudes and utilisation of contraception amongst adolescents in the countries under study. Factors contributing to the utilisation of contraception and sexual reproductive health service were also explored throughout the synthesis of information and through the patterns that emerged from the included studies. Table 7 summarises the relevant areas of study interest that each publication addressed.

Table 7 Themes Identified in the Included Publications

Author(s)/Themes	Knowledge and awareness	Utilisation and Practice (Consistency of usage)	Source of information	Attitudes and (mis) perceptions	Method preference and decision-making	Factors and barriers to use and non-use
Chaiboonruang (2018)	✓	✓	✓	✓	✓	✓
Chanthasukh (2018)	✓	✓	✓	✓	✓	✓
Douthwaite and Saroun (2006)	✗	✓	✗	✗	✓	✓
Hoang, Nguyen and Duong (2018)	✗	✓	✗	✓	✓	✓
Lanjakornsiripan et al. (2015)	✗	✓	✗	✗	✓	✓
Nguyen, Liamputtong and Murphy (2006)	✓	✓	✗	✓	✗	✓
Nguyen and Vo (2018)	✓	✓	✗	✓	✓	✓
Oung et al. (2019)	✓	✓	✗	✗	✓	✓
Phongluxa et al. (2020)	✓	✓	✓	✓	✓	✓
Samandari and O'Connell (2011)	✓	✓	✓	✓	✓	✓
Sychareun, Hansana, Phengsavanh and Phongsavan (2013)	✓	✗	✓	✓	✗	✓
Tangmunkongvorakul et al. (2017)	✓	✓	✗	✓	✓	✓
Thongmixay et al. (2019)	✓	✓	✓	✓	✓	✓
Tran and Vo (2018)	✓	✓	✓	✓	✓	✓
Vo, Tran and Tran (2018)	✓	✓	✗	✓	✓	✓
Vongxay et al. (2019)	✓	✓	✓	✓	✗	✗

6.1 Knowledge and Awareness of Contraception

6.1.1 Knowledge and Awareness

The determinants of contraceptive utilisation and consistent practice were mainly knowledge and awareness of contraceptive methods (Tesfa & Gedamu, 2018; Adane, Bekele, Melese, Worku, & Netsere, 2020). Adolescents were asked whether they had heard about any modern contraceptive methods and name the methods they knew. Some studies explored adolescents' understanding about the methods, not merely obtaining what percentage of adolescents know or are aware of different contraceptive methods (Chaiboonruang, 2018; Chanthasukh, 2018; Hoang, Nguyen, & Duong, 2018; Nguyen, Liamputtong, & Murphy, 2006; Samandari & O'Connell, 2011; Tangmunkongvorakul, et al., 2017).

The results indicated that participants had heard about at least one modern contraceptive method. In the studies from Vietnam, participants showed exceptional awareness of different types of contraceptive methods (Hoang, Nguyen, & Duong, 2018; Nguyen, Liamputtong, & Murphy, 2006; Nguyen & Vo, 2018; Tran & Vo, 2018; Vo, Tran, & Tran, 2018). Condoms and contraceptive pills (both combined oral contraceptives (COCs) and emergency contraceptives pills (ECPs)) were the most widely known and frequently cited. However, merely having heard of different contraceptive methods does not mean adolescents will necessarily have sufficient knowledge about using those methods. For example, adolescent mothers were aware of injectable contraception, but some could not provide the correct recurring period to receive the next dose (Chaiboonruang, 2018). Some adolescents from Vietnam may still have incomplete information about condoms, as one female adolescent said: *"People said that using condoms was to prevent getting pregnant... But I did not know very well about this issue. I just knew that condoms were used mainly for preventing from getting AIDS"* (Nguyen, Liamputtong, & Murphy, 2006, p. 406).

In the case of immigrant adolescents from Myanmar living in Thailand, most participants still had inadequate knowledge of using a condom appropriately. They mostly also stated that they had never seen a condom before, though those who noted this were female participants (Tangmunkongvorakul, et al., 2017). The latter group were deemed to have little to no knowledge about condom use and would not even know if their male counterparts carry them around. As one male participant in FDG reported:

Even if they see it, they don't know how to use it. Some men are worried that women will see the condom if they carry one around. But back home [in Myanmar] they don't need to worry about this because no one knows what it is (Tangmunkongvorakul, et al., 2017, p. 6)

Many studies in Lao PDR showed that adolescents had insufficient knowledge of modern contraception (Thongmixay, et al., 2019; Phongluxa, et al., 2020; Sychareun, Hansana, Phengsavanh, & Phongsavan, 2013). One study carried out with 461 adolescents revealed that the average score of their sexual reproductive health literacy (SRHL) test was deficient (19.2 out of 50 (Vongxay, et al., 2019). The study by Phongluxa et al. (2020) supported this claim as nearly a third of adolescents in his research showed no knowledge or awareness about modern contraception. For those who reported having heard of modern methods, they could only name condoms and the pills, and a small proportion only knew about condoms (Phongluxa, et al., 2020). The knowledge of ECPs is even worse, with less than a quarter of participants reported as having heard about ECPs and less than one in five of participants could describe the time frame in which to take ECPs (Sychareun, Hansana, Phengsavanh, & Phongsavan, 2013).

However, some studies showed that adolescents have good knowledge about male condom use, which helps prevent both HIV/STIs and pregnancy (Chaiboonruang, 2018; Chanthasukh, 2018; Thongmixay, et al., 2019). In particular, a study carried out by Chanthasukh (2018) in Northern Thailand showed that all adolescents of her study knew condoms could prevent pregnancy and sexually transmitted diseases. They were also aware that the withdrawal method has a higher failure rate than other methods (Chanthasukh, 2018). This is similar to the results of Chaiboonruang's (2018) survey, which was also conducted in Thailand, indicating that nearly all of the adolescent participants showed adequate knowledge about some modern contraceptives. Participants knew that a male condom should be worn before sexual activities, and that contraceptive pills must be taken daily to prevent pregnancy (Chaiboonruang, 2018).

Nonetheless, beyond condoms, COCs and ECPs, other contraceptive methods, particularly long-acting methods (IUDs, implants and sterilisation) were not well understood by many adolescents (Hoang, Nguyen, & Duong, 2018). Although most adolescents have some knowledge about COCs, they lacked information about progestin-only pills (POPs): for example, they were not aware that POPs could be used during breastfeeding. In connection with long-acting contraceptive methods, most participants knew the timeframe of injection repetition, but more than half of them did not know about using IUDs (Chaiboonruang, 2018).

One study in Cambodia, surveyed 84 women and found that nearly all of the participants had sufficient knowledge about the hormonal methods (Samandari & O'Connell, 2011). They believed that they are more effective than the traditional method (including withdrawal and abstinence) (Samandari & O'Connell, 2011).

The finding showed that the Lactational Amenorrhea Method (LAM) and female sterilisation were not mentioned in the included publication. This might be because most participants in this study were nulliparous, and breastfeeding was not their subject of interest. In addition, as young participants, they may still wish to reproduce in the future. Only one study cited the misconception about male sterilisation, which was believed to cause men to become gay (Chaiboonruang, 2018). Also, neither the vaginal ring nor the contraceptive patch was cited in any studies. These types of contraception may not have been introduced commercially in the countries under the review, where contraceptive methods are still poorly sourced (Sciortino, 2010).

Period abstinence, which participants learned from married women, was only discussed in one study in Vietnam (Nguyen, Liamputtong, & Murphy, 2006), while the withdrawal method was mentioned in many studies (Chaiboonruang, 2018; Chanthasukh, 2018; Nguyen, Liamputtong, & Murphy, 2006; Thongmixay, et al., 2019). However, it was discussed in more detail in Thailand, in which adolescents possess a good understanding that early withdrawal is the least effective method and would fail to protect against either STI/HIV or pregnancy (Chanthasukh, 2018). Some participants mentioned vaginal diaphragms, intrauterine devices, spermicides and implants, but the studies did not identify utilisation knowledge, or whether adolescents demonstrated the perfect use of the contraception (Nguyen & Vo, 2018; Vo, Tran, & Tran, 2018; Tran & Vo, 2018).

In summary, awareness of common contraceptive methods, such as condoms, oral contraceptive pills and ECPs was almost universal for adolescents in the included studies. Even so, awareness may not be construed as imparting accurate information about the methods. Even though some participants stated that they had heard about other contraceptive methods, particularly the long-acting and reversible contraception methods (IUDs, Implants, Injectable), they did not have sufficient knowledge on how to use them or how they work.

6.1.2 Source of Information

The results indicated three primary sources of information on contraception and sexual reproductive health, namely, peers, mass media and health personnel. Friends or peers were the most frequently cited source of contraceptive awareness and sexual reproductive health information (Sychareun, Hansana, Phengsavanh, & Phongsavann, 2013; Thongmixay, et al., 2019; Phongluxa, et al., 2020). Mass media such as radio, television, the internet, and social media were commonly mentioned in all included papers that presented information sources.

It is worth noting that young people in Lao PDR face more challenges in obtaining information on the internet as most of the websites are not in Lao. They relied on websites from Thailand (Thongmixay, et al., 2019).

Another source of reliable information is health practitioners such as doctors, nurses and pharmacists (Chanthasukh, 2018; Hoang, Nguyen, & Duong, 2018; Samandari & O'Connell, 2011; Sychareun, Hansana, Phengsavanh, & Phongsavan, 2013; Thongmixay, et al., 2019; Tran & Vo, 2018). Other uncommon sources of information mentioned were family members (Nguyen, Liamputtong, & Murphy, 2006), the leaflets included inside a contraceptive package (Thongmixay, et al., 2019) and surprisingly a novel (Chanthasukh, 2018).

6.2 Attitudes and Perceptions Toward Contraception

This section explores the general attitudes and perceptions of adolescents in the five countries. Some respondents express a positive attitude and acknowledge the importance of contraception. However, there are many prevailing myths and misconceptions about the side effects of modern methods, leading to fear and avoidance of contraception use. Negative attitudes were also transmitted through social and cultural norms and misinformation from unknown sources of rumours.

6.2.1 Overview

By gleaning information from the studies, the overall outcome of adolescents' attitudes tends toward a negative stance, both contraceptive utilisation and accessing sexual reproductive health services. Negative words frequently appeared in almost all included studies that discussed attitudes. The attitudes and myths in these studies have been identified as words beginning with the letter 'D', which primarily have negative connotations. In this sense, negative expressions could be contributors and barriers to contraceptive and sexual reproductive health service utilisation. The following box illustrates the words expressed during the focus discussion groups and in-depth interviews by the adolescents in the included studies.

Box 1 The words begin with the letter 'D' frequently expressed during the focus discussion groups and in-depth interviews by the adolescents

"My partner wants to use the natural method because he fears hormonal **disturbance** and other side effects" (Chaiboonruang, 2018, p. 75)

"But it is **dangerous**. Taking these tables [ECPs] probably lead to infertility" (Chanthasukh, 2018, p. 128)

"I have never seen injection birth control. The inserting medicine one [contraceptive implant] seems **dangerous**. It scares me." (Tangmunkongvorakul, et al., 2017, p. 7)

"One day, while I was in class, a teacher told us about condom, I then visited my relatives showed them the condom. My relatives thought that it was something **dirty** to talk about" (Tangmunkongvorakul, et al., 2017, p. 6)

"Generally, my boyfriend told me about condoms. But my female friends said condoms are **disgusting**" (Nguyen, Liamputtong, & Murphy, 2006, p. 406)

"For those who don't use, sometimes they fear and sometimes their husbands don't use. Their husbands [are] afraid of health **damage**, their husband does not allow to use" (Samandari & O'Connell, 2011, p. 266)

"If a woman uses injectables for several years, it can **damage** her uterus. You cannot have a baby. My friend told me about her experience. After she married, she used injectables for 3-4 years, then stopped using any kind of contraception and never got pregnant" (Chaiboonruang, 2018, p. 75)

When people who use methods [tell me about the side effects], how can I **dare** use it? (Samandari & O'Connell, 2011, p. 264)

People said ... that [the pill] causes headache, **dizzy**, trembling chest. Some people want to delay [birth], but they **don't dare** to ... they are afraid of the inside body affection (Samandari & O'Connell, 2011, p. 264)

"Many discontinuers abandoned their contraceptive method because it caused symptoms, such as irregular bleeding, headache, **dizziness**, and weight gain" (Samandari & O'Connell, 2011, p. 265)

"... We thought we needed more vending machines because [pause] in case young people **don't dare** to buy condoms [pause] because lots of people are in the store. Young people can access condoms comfortably" (Chanthasukh, 2018, p. 154)

"I heard people said that taking pills affected the potential of getting pregnant later. So, I was afraid. I did **not dare** to take the pills" (Nguyen, Liamputtong, & Murphy, 2006, p. 405)

"Even though adolescents did not fear negative attitudes from health providers, they did **doubt** their confidentiality and feared that health providers might inform their parents if they accessed SRH services" (Thongmixay, et al., 2019)

"... those who would not use contraception in the future or were not sure whether they would, reported being concerned about potential health **disadvantages** or a lack of effectiveness" (Tran & Vo, 2018, p. S94)

“In a female group ... expressed their beliefs about being at a **disadvantage** —girls get pregnant, but boys cannot get pregnant” (Chanthasukh, 2018, p. 137)

The **discomfort** and pain of side effects were often cited as the primary reason for discontinuation (Samandari & O'Connell, 2011, p. 265)

“the participants regarding hormonal contraception were that it caused irascibility, bodily **discomfort**, future pregnancy complications and cancer” (Hoang, Nguyen, & Duong, 2018, p. 552)

“Interviewees told stories of the **discomfort** and harassment they experienced during their hospital and clinic visits. There were instances when health staff would berate patients to the brink of tears” (Hoang, Nguyen, & Duong, 2018, p. 555)

“I have heard them say that if we use these medicines, [afterwards when] we want to have a baby, it's **difficult**. Some people who used these medicines can't have a baby forever” (Samandari & O'Connell, 2011, p. 263)

“I'm not sick, and if I get the injection and lose weight, I'll have to look after myself and lose time [from working]. It's even more **difficult**, and my family situation is even worse” (Samandari & O'Connell, 2011, p. 265)

“The majority of study participants believed that using contraceptive methods was very complicated ... which indicated that contraceptive pills were considered inconvenient and **difficult** to use” (Tran & Vo, 2018, p. S96)

“When my boyfriend does not want to use it [condom] I find it **difficult** to say I do not want to have sex” (Thongmixay, et al., 2019)

“Adolescents indicated it was **difficult** to find SRH information in the Lao language on the Internet, so they sought information in Thai. Also, some found it **difficult** to identify reliable websites” (Thongmixay, et al., 2019)

“many other women felt that it was **difficult** or uncomfortable to talk about these issues with their friends due to the sensitiveness of the topic” (Nguyen, Liamputtong, & Murphy, 2006, p. 409)

“I plan to space my next pregnancy for 2-5 years ... I will choose pills because implants and injectables can cause infertility. It is **difficult** for women to get pregnant again, or forever” (Chaiboonruang, 2018, p. 75)

“I read that people said that injectable contraceptives were not good, it causes **dry** uterus ... that “the uterus cannot excrete menstrual blood, the waste product is still in your body, and there is irregular menstruation...” (Chaiboonruang, 2018, p. 74)

“Many interviewees reported that they feel **disempowered** in front of a physician and are therefore hesitant to ask any more questions or advice for fear of being patronised or reprimanded” (Hoang, Nguyen, & Duong, 2018, p. 555)

“The lack of a patient-provider relationship was cited as a major reason why female interviewees felt **discouraged** from having preventive, well-woman visits” (Hoang, Nguyen, & Duong, 2018, p. 555)

“Parents actively **discouraged** relationships among youth, and topics like relationships and sex were taboo to discuss with parents” (Thongmixay, et al., 2019)

6.2.3 Fears

6.2.3.1 *The Fear of Side Effects*

Participants frequently signalled the fear of side effects of contraceptive methods, primarily hormonal methods, such as IUDs, implants, injectables and ECPs. Almost all methods that participants could name (except for condoms) were believed to cause infertility or difficulty to conceive in the future.

I will choose pills because implants and injectables can cause infertility. It is difficult for women to get pregnant again, or forever (Chaiboonruang, 2018, p. 75)

If a woman uses injectables for several years, it can damage her uterus. You cannot have a baby (Chaiboonruang, 2018, p. 75)

Taking these tables [ECPs] probably lead to infertility (Chanthasukh, 2018, p. 128)

I heard people say that taking pills affected the potential of getting pregnant later. So, I was afraid. I did not dare to take the pills (Nguyen, Liamputtong, & Murphy, 2006, p. 405)

In one case, the fear of side effects was also passed on to a male partner who then held negative attitudes toward ECPs. This attitude led him to lie that he accidentally ejaculated. Thus, his girlfriend [the respondent] would not use ECPs. As the respondent retold her story:

He told me to trust him, and I never doubted him but that time [we had sex] he didn't tell me that he had ejaculated because he was afraid that I would use emergency contraception ... he believes that things like that would make it harder for me to have children later on (Hoang, Nguyen, & Duong, 2018, p. 554)

Additionally, there are some negative attitudes that stemmed from vague beliefs about the side effects of hormonal contraceptive methods. Even though some participants seemed to trust hormonal pills and injections, they opted not to use IUDs and implants as they believe these are harmful methods (Samandari & O'Connell, 2011). Unfortunately, there is no further elaboration of what it means when participants referred to contraception as “not good things”, “it would affect my health”, or “it [using contraception] would ruin ourselves”. Even though the explanation was unclear, negative impressions were expressed in many included studies:

My partner wants to use the natural method because he fears hormonal disturbance and other side effects (Chaiboonruang, 2018, p. 75)

They [pills] are not good things...they endanger females if females have to take them over a long period (Chanthasukh, 2018, p. 129)

The medicine [hormonal contraception] would adversely affect my health I'd rather be celibate until I am married (Hoang, Nguyen, & Duong, 2018, p. 552)

I was afraid of the diseases of taking pills later on. So, I did not allow my girlfriend to use it to get pregnant later... It goes from a lung to a liver (Nguyen, Liamputtong, & Murphy, 2006, p. 405)

[Elders] said that when we were young and use [hormonal injection], we would ruin ourselves (Samandari & O'Connell, 2011, p. 264)

6.2.3.2 The Fear of Social Condemnation

It is socially unacceptable for women to engage in premarital sexual activities in the focused countries. Because of this social norm, discussion about contraception is considered to be shameful. Female participants often view condoms as an embarrassing or taboo topic to discuss. This is because women who know about or use condoms mean they are engaging in premarital sex. Thus, many female adolescents would try to conceal their sexual status. In an extreme case, participants reported that it is considered immoral for girls to be touched by men (Tangmunkongvorakul, et al., 2017).

Generally, my boyfriend told me about condoms. But my female friends said condoms are disgusting (Nguyen, Liamputtong, & Murphy, 2006, p. 406)

Female interviewees also expressed hesitancy towards personally purchasing condoms because of the social stigma against premarital sex (Hoang, Nguyen, & Duong, 2018, p. 554)

Female participants were shy about talking about issues regarding condoms. They acted embarrassed when shown a condom, and were scared to touch the package (Tangmunkongvorakul, et al., 2017, p. 6)

Some female participants expressed some unfavourable attitudes toward condoms, particularly in their relationships, claiming that they feel uncomfortable when their partners always carry condoms. Simultaneously, some male participants hold negative attitudes about women possessing condoms.

If my boyfriend always brings condoms with him, I would feel uncomfortable and would question him (Nguyen, Liamputtong, & Murphy, 2006, p. 406)

If a girl carries condoms, it is like [promiscuous]. Is she [promiscuous]? ... She looks like being ready to have sex (Chanthasukh, 2018, p. 116)

Social stigma aside, some women complain about the effectiveness of condoms and do not view them as a good alternative as they are more likely to break and fail to prevent pregnancy (Samandari & O'Connell, 2011). For male participants, they mostly have negative attitudes toward condom use because they hinder their sensations. For instance, one respondent said, "Condoms make me uncomfortable.... I don't like using condoms. Using them bars my sensation" (Nguyen, Liamputtong, & Murphy, 2006, p. 406).

6.2.4 Misinformation and Myths

Many included studies revealed misperceptions about the side effects of contraceptive methods, particularly the hormonal method. Participants believe that hormonal contraception causes side effects including anger, pregnancy complications, physical discomfort, infertility, cancer, blood clotting, tumours and haemorrhage (Hoang, Nguyen, & Duong, 2018; Samandari & O'Connell, 2011). A study carried out by Phongluxa, et al. (2020) revealed misinformation about pills and condoms. It reported that nearly half of the participants thought that the pills could prevent HIV and STIs, while approximately 20% said that male condoms do not prevent HIV and STIs, and about 15% thought that condoms do not prevent pregnancy (Phongluxa, et al., 2020). Misinformation also showed in another study in Lao PDR, where a respondent thought that she could catch STIs because of poor personal hygiene or from unhygienic toilets, not from unprotected sex (Thongmixay, et al., 2019).

Further, myths were attributed to the route of each method. For instance, IUDs are inserted into the uterus, and thus it was believed they would irritate and damage the uterus (Chaiboonruang, 2018). At the same time, some believed that injectable contraceptives could cause a dry uterus. Or participants explained further with the statement that using hormonal injectable contraception causes irregular menstruation, which means the uterus does not discharge menstrual blood and thus the waste [menstrual blood] remains in their body (Chaiboonruang, 2018); it [IUDs] could slip out of the uterus particularly during heavy lifting; likewise some thought that implants would make their arms wither (Samandari & O'Connell, 2011).

Another example of myths is the contraceptive pill, which is believed to leave residues in the body, and it takes a longer time to be effective because it has to be diluted (Chaiboonruang, 2018). As the participants noted, *"If a woman takes an oral contraceptive pill, it takes time to dilute and work. The tablet is suspended in the middle of the uterus, and it doesn't work immediately"* (Chaiboonruang, 2018, p. 75). On the other hand, an injectable contraceptive is believed to be instantly effective because it is injected into the buttocks, while sterilisation is thought to cause men to be gay (Chaiboonruang, 2018).

Aside from modern contraception, there is also misinformation attributed to the withdrawal method, which was proposed by a male partner using "trust" to convince a female respondent not to use a condom. The participant stated, *"My boyfriend told me that when having sexual relation[s], we shouldn't let sperms go inside my vagina; and I maintained the position of sitting so the sperms all would come out. So, I don't get pregnant even when we had sexual relations for a long period"* (Nguyen, Liamputtong, & Murphy, 2006, p. 406).

Moreover, many participants in the included studies believe that some contraceptive methods are only for a specific group of women or a certain relationship, for instance, women's parity, appropriate time of contraceptive use and appropriateness of contraceptive methods (Nguyen, Liamputtong, & Murphy, 2006; Nguyen & Vo, 2018; Samandari & O'Connell, 2011). These views could lead to a limitation for women and leave them with fewer choices.

They [interviewees] thought these contraceptives were especially for married women who already had had children (Nguyen, Liamputtong, & Murphy, 2006, p. 405)

Many interviewees believed that IUDs, Depo-Provera shots and implants were inappropriate for nulliparous women (Hoang, Nguyen, & Duong, 2018, p. 552)

Participants described condoms as a method primarily utilised during sex with CSWs, making their use within the marital relationship inappropriate (Samandari & O'Connell, 2011, p. 263)

The elders said that I should not use [contraceptives]... Wait until I have 2 or 3 children, then use it (Samandari & O'Connell, 2011, p. 264)

Fears and misconceptions have led to negative attitudes toward modern contraception amongst adolescents in the included studies. However, despite the negative impressions, some studies show positive attitudes of participants toward contraception. In the study of Sychareun et al. (2013), most participants would like ECPs to be widely available in Lao PDR as they believe that preventing unintended pregnancy is very important. Likewise, contraceptive methods were commonly perceived to benefit social well-being (Nguyen & Vo, 2018; Tran & Vo, 2018; Vo, Tran, & Tran, 2018).

6.3 Contraceptive Utilisation and Practices

6.3.1 Contraceptive Usage and Consistency

The decision whether to use contraception or not and the consistency of usage is subject to many influences, including socio-cultural, financial situations (microeconomic), migration and the lack of access to sexual reproductive health services. The use of modern contraceptive methods varied considerably amongst all participants. The utilisation rates were reported to be low-to-moderate. However, it is essential to note that due to differences between the participants' characteristics and the research methodology used, it would make little sense to compare and contrast each study statically.

Utilisation depended on the negotiation skills of the female respondents, time, financial situation of male respondents and types of sexual partners (Chanthasukh, 2018; Chaiboonruang, 2018; Douthwaite & Saroun, 2006). Adolescents still relied on parents for their living, which impacted on their ability to buy contraception. As one of the participants in the Chanthasukh (2018) study stated, *"If I had no money to buy condoms, I would not use condoms"* (p. 127). Although they knew the benefits of contraception, they would reject condom use due to financial restrictions. In other cases, contraceptive use was believed to be unnecessary. One study found that more than three-quarters of adolescent participants thought they had a very low chance of getting pregnant (Lanjakornsiripan, et al., 2015).

Different types of relationships affect the consistency of condom uses. The use of condoms was higher among students who had casual partners or transactional sex than among those who had a regular partner (Oung, et al., 2019). Similarly, another study showed that condom usage is the lowest in the case of sex with female friends, while the use was significantly higher among both brothel-based and non-brothel-based sex workers (Douthwaite & Saroun, 2006). Furthermore, peers also influenced the likelihood of condoms being used. Participants were more likely to use a condom when friends accompanied them to the last transactional sexual encounter than when they went alone (Douthwaite & Saroun, 2006).

6.3.2 Contraceptive Preference

When contraceptives were used, the most common methods were condoms, the pill, ECPs, and withdrawal (in decreasing order). Condoms were the most common due to their convenience (Nguyen & Vo, 2018; Tran & Vo, 2018; Vo, Tran, & Tran, 2018). However, one study mentioned that the lack of knowledge of other choices led participants only to consider using male condoms (Chaiboonruang, 2018).

Although some young people preferred the early withdrawal method because it enhanced their sensation and avoided perceived side effects (Chaiboonruang, 2018; Nguyen, Liamputtong, & Murphy, 2006; Thongmixay, et al., 2019), they viewed it as essentially an alternative method to prevent unintended pregnancy when they have no other modern contraceptives at hand (Chanthasukh, 2018). In some cases, if the male partner trusted their female counterpart, the pill was preferred over condoms (Tangmunkongvorakul, et al., 2017). Similarly, one participant claimed that he was respecting his partner by not using condoms.

I do not use a condom with my girlfriend to show respect to her. That I am not cheating on her by having sex with someone else. And also, for the better feeling (Thongmixay, et al., 2019)

Other long-acting contraceptive methods were not mentioned as their choice, even though they stated that they had heard about these methods. However, adolescents were not reported as having comprehensive knowledge about each type, its effectiveness and how to use it. A lack of knowledge and awareness could be the reason these four methods mentioned earlier are more commonly used or preferred over the others. The misconceptions about some methods could be contributors to negative attitudes, leading to avoidance of such methods.

6.3.3 Patterns of Decision-making

A study in Thailand by Chanthasukh (2018) presented an orderly process of decision-making about contraceptive use by adolescents. As the participants are all students and unmarried, there are more steps to take within relationships. The patterns described in this study were as follows: decision-making about the use of contraceptives before initiating a sexual relationship; just before each sexual encounter; after having an abortion; and automatic decisions when intoxicated (Chanthasukh, 2018). However, in this study population, it was more likely that discussion about contraceptive methods would happen just before sexual intercourse (Chanthasukh, 2018). In most cases, women would likely be the first to discuss contraceptive use, condoms in particular, while men would try to convince their partners not to use them. In fact, men expected women to be the initiator because they get used to being requested to use condoms by their partners (Chanthasukh, 2018). Male participants in this

study stated that if the women didn't ask them to use a condom or allow unprotected sex, they would not be hesitant to ignore a condom. However, if the women insisted on using a condom, they would go to a convenience store and get one. In this light, women's ability to negotiate for safe sex is a significant factor influencing condom use, and it also suggested self-efficiency (Chanthasukh, 2018).

Many studies found that young women lacked autonomy in contraceptive use (condoms), and it was always their partners who would decide whether to use it (Phongluxa, et al., 2020; Thongmixay, et al., 2019; Chaiboonruang, 2018; Nguyen, Liamputtong, & Murphy, 2006; Hoang, Nguyen, & Duong, 2018). The lack of autonomy echoed around trust and pressure. For instance, one participant stated, *"When my boyfriend does not want to use it [condom] I find it difficult to say I do not want to have sex."* (Thongmixay, et al., 2019). One study carried out amongst adolescent mothers in Thailand signified the lack of self-confidence among the participants to decide which contraceptive methods they want to use or whether they should use them at all (Chaiboonruang, 2018). The decision of most adolescent mothers on contraceptive usage depended on their partners' opinions and permissions, as well as family member's suggestions as to which of these were perceived to boost their confidence (Chaiboonruang, 2018).

Similarly, in Cambodia, Samandari and O'Connell (2011) reiterated the lack of self-confidence amongst women to start using contraception: the timidity derived from doubt of their knowledge about methods and doubt about access to one of the methods (Samandari & O'Connell, 2011). When confidence was not an issue, some participants stated that their husbands play a vital role in deciding on contraceptive utilisation (Samandari & O'Connell, 2011). Their husbands determined which methods and provided the approval of the method they preferred (Samandari & O'Connell, 2011). Worse yet, when their husbands held misinformation about contraceptive side effects, they would unilaterally decide whether they would allow their wives to continue to use contraceptives (Samandari & O'Connell, 2011).

For those who don't use, sometimes they fear ... Their husbands [are] afraid of health damage, their husband does not allow to use (Samandari & O'Connell, 2011, p. 266)

When [my husband] heard that I was sick he stopped me and did not allow taking pills anymore (Samandari & O'Connell, 2011, p. 266)

Some young women attempted to engage in decision-making regarding the use of contraception. Nonetheless, when their partners refused them, they found it difficult to say no, and obey their partners (Nguyen, Liamputtong, & Murphy, 2006).

I asked my boyfriend to use condoms, but he did not accept it, and he used withdrawal—I knew many contraceptive methods. But using them was up to my boyfriend. He did not like using them. I had to follow him (Nguyen, Liamputtong, & Murphy, 2006, p. 411)

The decision-making process was different amongst adolescents in different situations whether married or single. In a marital relationship, husbands appear to hold more decision-making powers in contraceptive choice, signifying the lack of self-sufficiency amongst their female partners. While in a non-marital relationship, female participants can negotiate the use with their male partners or boyfriends. In the case of intoxication, however, there is no negotiation about contraceptive use.

6.4 Factors Influencing Contraceptive Use and Non-use

Awareness of, attitudes toward and accessibility to sexual reproductive health services were contributing factors to contraceptive utilisation amongst adolescents in the countries under study. The findings also illustrated the frequent appearance of the word “*fear*”, which may have driven contraceptive use and non-use. These fears could be classified into three components; namely, the fear of unplanned pregnancy and HIV/STIs, the fear of burdening parents and being punished by them, the fear of side effects, and the fear of offending their partners.

6.4.1 Awareness and Availability

Individuals are more likely to use some kind of contraception when they learn about their availability and have better accessibility (Ross & Stover, 2013). Studies revealed that the lack of awareness of how to obtain information about the different contraceptive methods and their availability, even free of charge, have deterred adolescents from seeking or using any kinds of contraceptives (Phongluxa, et al., 2020; Hoang, Nguyen, & Duong, 2018). Similarly, the study in Cambodia showed that almost half of the participants did not use any form of contraception, because they did not know about the methods and how to obtain them (Oung, et al., 2019). Because of this, adolescents would not have any modern contraception readily available with them, which is also the reason for not using it (Thongmixay, et al., 2019). Apart from one study, young people in Lao PDR reported low use of ECPs because there was no official promotion or legal availability in public health facilities (Sychareun, Hansana, Phengsavan, & Phongsavan, 2013).

Additionally, those who were not using any method stated that they didn't expect to have sex: it was "unplanned sex" (Oung, et al., 2019). Intoxication was another reason why the adolescents unintentionally decided to disregard condom use (Chanthasukh, 2018; Thongmixay, et al., 2019). Since there was no decision made when they were drunk, the only choice they had was ECPs (Chanthasukh, 2018).

6.4.2 Negative Attitudes and Misconceptions

Misconceptions and myths about the side effects of contraceptive methods generate negative impressions and concerns regarding health for adolescents. Thus, it influences adolescents to use or not use, at least some types of contraception (Hoang, Nguyen, & Duong, 2018; Samandari & O'Connell, 2011). For example, injections could be a frightening practice for some adolescents. Thus, they hold negative attitudes toward injectable contraceptives and avoid this method (Chaiboonruang, 2018).

Female participants in the study by Samandari and O'Connell (2011) reported holding negative attitudes toward hormonal contraceptives. These attitudes are rooted in misperception and rumours circulated by family members or elders in the community who are deemed to have more experience. Rumours include side effects such as cancer, tumours, haemorrhage and infertility (Samandari & O'Connell, 2011). Participants also reported that the elders gave misinformation about the age-time appropriateness to initiate the utilisation of hormonal contraceptive methods and their long-term side effects. For instance, the participants were told that women should only use hormonal contraceptives when they have at least two children, or at least when they are over 30 years of age (Samandari & O'Connell, 2011).

Negative attitudes also came from the stigma around using contraception, particularly for unmarried adolescents. Studies reported that the fear of being judged and humiliated when using or carrying condoms and ECPs discouraged young people from visiting the local pharmacy or health facilities to ask for contraception (Chaiboonruang, 2018; Chanthasukh, 2018).

6.4.3 Fear of Unwanted Pregnancy, STIs/HIV and the Consequences

Unintended pregnancy poses adverse consequences to adolescents' physical and mental health, as well as their education and economic wellbeing (Cleland, Conde-Agudelo, Peterson, Ross, & Tsui, 2012; Ganchimeg, et al., 2014). This is why preventing pregnancy was the primary reason for the adolescents to use contraception, followed by the purpose of preventing sexually transmitted diseases and HIV (Chaiboonruang, 2018; Chanthasukh, 2018; Nguyen, Liamputtong, & Murphy, 2006; Nguyen & Vo, 2018; Tran & Vo, 2018; Vo, Tran, & Tran, 2018).

The fear of being punished and becoming a burden to parents from an unintended pregnancy have consistently reinforced the drive to use contraception. Two studies in Thailand indicated that unwanted pregnancy would result in being punished or even rejected by their parents (Chaiboonruang, 2018; Chanthasukh, 2018). This fear has become the motive for using any modern contraceptive methods. The studies also added that adolescents do not want to cause any problems to parents, as the participants stated in the following excerpts:

If we got pregnant ... We would burden our parents more than usual. We heap more burdens on our parents. Parents would have to look after us. They would have to look after our children too (Chanthasukh, 2018, p. 126).

Doing this [unplanned pregnancy] will make parents in difficulties again. Instead of looking after parents, these teenagers become a burden ... more and more (Chanthasukh, 2018, p. 126).

The burden could also fall on the adolescents themselves because they have to enter early parenthood, affecting their education and bringing financial hardship during the early childrearing (Chanthasukh, 2018). There is also a concern particularly for adolescent girls, as one participant in a focus group discussion said, "Girls get pregnant, but boys cannot get pregnant" (Chanthasukh, 2018, p. 137). This implies adolescent girls believe that pregnancy would place more burdens on them than on the boys (for instance, going through the pain during labour and delivery and dropping out of school) (Chanthasukh, 2018). This is why adolescent girls are more likely to ask for contraceptive use than their partners.

6.4.4 Fear of Side Effects Impedes Utilisation

Both real and perceived side effects (see 6.2.3.1) of contraceptives are significant barriers for contraceptive use, as they impact on the choice of contraceptive methods for most participants (Chaiboonruang, 2018; Chanthasukh, 2018; Oung, et al., 2019; Hoang, Nguyen, & Duong, 2018; Nguyen, Liamputtong, & Murphy, 2006; Samandari & O'Connell, 2011). One example is that a female participant chose condoms over other types of contraceptives because she was terrified by the side effects of contraceptive pills. She stated: "I won't take hormone contraceptive pills ... if we take these pills for a long time, there will be drug residues in our body. These residues could make us infertile. I decided not to take these pills, but to insist on condoms" (Chanthasukh, 2018, p. 128). In this sense, it is favourable that adolescents decide to use condoms as an alternative, since it offers the additional benefit of helping to prevent sexually transmitted diseases.

6.4.5 Effectiveness, Price, Quality and Convenience

Some studies reported that adolescents choose to use a condom because it makes them feel protected (Chanthasukh, 2018) and safe without concerns of side effects (Tran & Vo, 2018; Thongmixay, et al., 2019). Besides, it can be easily obtained from a nearby pharmacy or convenience store without a prescription (Nguyen, Liamputtong, & Murphy, 2006; Nguyen & Vo, 2018; Tran & Vo, 2018; Vo, Tran, & Tran, 2018; Chanthasukh, 2018). Still, there are some complaints about quality and poor-fitting sizes, especially ones obtained from a vending machine that offers a lower price (Chanthasukh, 2018). Undoubtedly, a higher-quality condom comes with a higher price, and it is even more expensive to get condoms from convenience stores (Chanthasukh, 2018). In effect, the price could affect adolescents' decision on buying or using one since most adolescents may still rely on an allowance from their parents (Chanthasukh, 2018). As one participant said, "If I had no money to buy condoms, I would not use condoms" (Chanthasukh, 2018, p. 127).

6.4.6 Partners' Support, Autonomy and Reassurance

Amongst married couples, Samandari & O'Connell (2011) found that when the husband understood the benefits of using contraception to space pregnancy, which helps to secure the stability of the household economy, it would increase the likelihood of contraceptive use. When wives received emotional and physical support from their husbands, they were more likely to initiate utilisation (if currently a non-user), or continue to use (if presently using) and vice versa (Samandari & O'Connell, 2011).

Participants also noted that being reassured by healthcare providers with valid information about contraceptive methods would gradually help to remove fallacies and rumours about the side effects of contraceptives (Samandari & O'Connell, 2011). Being more assured and informed about contraception could build confidence and reduce concerns about contraceptive utilisation.

Having autonomy is another factor contributing to contraceptive use and non-use (Phongluxa, et al., 2020; Thongmixay, et al., 2019; Tran & Vo, 2018; Chanthasukh, 2018). According to Chanthasukh (2018), autonomous individuals who have control over their sexual reproductive health are more likely to have control over contraceptive use. Indeed, when adolescent girls are confident in negotiating contraceptive use with their partner, they are more likely to be successful. Chanthasukh (2018) stated that negotiation skills were the key influencing factors in convincing their partners to use condoms. The strategy could be by raising concerns about the potential consequences of not using a condom or by setting the 'no condom, no sex' rule in their relationships (Chanthasukh, 2018).

On the other hand, if they had no courage or felt disempowered to ask for contraception, the chance of contraceptive use could be very low. As noted in many studies, female participants often did not use any kinds of contraception because their partners refused it (Thongmixay, et al., 2019; Nguyen, Liamputtong, & Murphy, 2006). Also, when the participants' husbands or partners wrongly perceived the side effects of certain kinds of contraceptive methods, they would not be permitted to use such methods (Tran & Vo, 2018; Samandari & O'Connell, 2011).

6.4.7 Challenges in Accessing Sexual Reproductive Health Services

Sexual reproductive health services are the central point of contact for many young people in enquiring about family planning or contraceptive methods. They play a critical role in providing preventative care and promoting health and well-being. The services could offer education in sexuality and reproductive health, counselling, treatments and potential referral. This is why being able to access services would contribute to the utilisation of contraception. However, it is not always easy for adolescents. This section describes the challenges young people in the included studies encountered, and that contribute to their contraceptive utilisation and which could identify the gaps in adolescents' sexual reproductive health needs.

6.4.7.1 Awareness of the Services

The findings suggest that many adolescent respondents were not aware of where to obtain sexual reproductive health services. This might be because they did not know the physical location or were unaware of the existence of a youth-friendly clinic (Tangmunkongvorakul, et al., 2017; Thongmixay, et al., 2019). They were also not sure if they were eligible to use the service (Tangmunkongvorakul, et al., 2017; Thongmixay, et al., 2019). Adolescents often ruled themselves out from accessing services as they thought that only married individuals could use them (Thongmixay, et al., 2019).

One key informant suggested possible reasons that adolescents were not aware of the service. He stated that the youth-friendly clinic was poorly maintained and lacked promotion (Thongmixay, et al., 2019). Similarly, another respondent from the same study claimed that the building was poorly visible from the public road and that the sign to identify the facility was difficult to notice (Thongmixay, et al., 2019).

Apart from this, some adolescents asserted that inadequate sexuality education contributed to the lack of awareness of modern contraceptive methods and sexual health including STIs and early pregnancy (Thongmixay, et al., 2019). They added that the information they learned from biology classes in their schools was shallow, only discussing male and female body parts or systems (Thongmixay, et al., 2019).

6.4.7.2 Accessibility

According to respondents from a study conducted in Lao PDR, the facility was harder to reach because of poor infrastructure (Thongmixay, et al., 2019). There are only two youth-friendly clinics – one in Vientiane (the capital) and another in Savannakhet (the southern part). Those living near the Thai border and who have no financial restriction would cross to Thailand to get sexual reproductive health service there instead (Thongmixay, et al., 2019).

Additionally, service hours also have impacts on adolescents' accessibility. The respondents reported that they prefer to visit the youth-friendly clinic in the evening or on the weekends as it is more suitable for their schedules (Thongmixay, et al., 2019). However, the clinics are only open during office hours (9 a.m. to 5 p.m.) and on weekdays, which hindered them from using the service (Thongmixay, et al., 2019).

6.4.7.3 Social Judgments, Privacy and Anonymity

Adolescents pointed out that public family planning services are not commonly used because they perceived them as lacking in privacy. They are afraid that people they know or who know their parents may see them and might tell their parents (Thongmixay, et al., 2019). Adolescents also have a wrong impression about the service that it is only for married individuals who already have children (Thongmixay, et al., 2019).

Furthermore, it is understood that if individuals visit sexual reproductive health services, it implies that they are engaging in a sexual relationship (Thongmixay, et al., 2019). Since there is a lack of cultural acceptance and stigma around sexual relations outside of marriage, a young unmarried person would feel ashamed and hesitate to use the service or to consult with the health providers (Chanthasukh, 2018; Hoang, Nguyen, & Duong, 2018; Nguyen, Liamputtong, & Murphy, 2006; Thongmixay, et al., 2019). This stigma has further limited young people in gaining valid information about contraception, safe sex practice, sexuality, and sexual health (Hoang, Nguyen, & Duong, 2018).

Although condoms and contraceptive pills could be obtained without fees from the local health centre or clinics, adolescents still encounter difficulties getting them (Chanthasukh, 2018; Nguyen, Liamputtong, & Murphy, 2006). Participants asserted that to get the “free” condoms at a public service, they have to provide personal information and records and sign a document for reports (Chanthasukh, 2018). By doing so, adolescents could not remain anonymous and thus they would be prevented from using the service. In essence, it is easier for adolescents to go to a pharmacy due to the more favourable service hours and the fact that they remained anonymous.

6.4.7.4 Unfavourable experiences

Health providers are expected to put adolescents at ease when they visit and ask for help or counselling. Unfortunately, however, a provider sometimes could be prejudiced and assume that unmarried adolescents only come to visit when seeking an abortion. As an example from the study in Vietnam, a female respondent shared her experience:

I told the nurse-midwife that I had irregular periods ... As soon as I mentioned that I was single she suddenly became rude to me ... and ... wrote in the medical records, without saying another word to me, that if [it turns out that] I am pregnant, then I will have an abortion... She [wrongfully] assumed that because I was a single woman ... I must be coming in for an abortion ... I've been reluctant to go back ever since (Hoang, Nguyen, & Duong, 2018, p. 555).

Furthermore, many respondents felt discouraged from visiting health services because of being criticised and feeling harassed by the provider (Hoang, Nguyen, & Duong, 2018). In another example from the same study, an adolescent girl reported an unfavourable experience with a health provider, as she recalled, "They made me feel like I was guilty [of something] ... like I committed a crime by going to see the doctor" (Hoang, Nguyen, & Duong, 2018, p. 555). Given that the experience was terrifying, young people dreaded the idea of visiting sexual reproductive health services.

6.5 Chapter Summary

This chapter presents the findings on knowledge, attitudes and utilisation of contraception amongst adolescents in the included studies. Generally, nearly all young individuals across the five countries have an awareness of some types of modern contraception. However, they may not have the comprehensive knowledge about the application and accurate information on the side effects.

The findings reported descriptive results of less-than-optimal use of any form of contraception. The most preferred methods were condoms, oral contraceptive pills (the COC pills and ECPs), and withdrawal. Types of sexual partners could affect the consistency of condom use. The use is more consistent amongst commercial sex workers than with regular partners (Douthwaite & Saroun, 2006). In marriage, a condom is not expected to be used because of its perceived inappropriateness in a marital relationship (Samandari & O'Connell, 2011) and because of trust validation, faithfulness and respects for their partners (Hoang, Nguyen, & Duong, 2018; Nguyen, Liamputtong, & Murphy, 2006; Thongmixay, et al., 2019).

Attitudes toward contraception were significantly negative, which may be derived from persisting misconceptions. In general, hormonal contraceptives were perceived to affect general health and reproductive health, while condom use implied promiscuity (Chanthasukh, 2018) and unfaithfulness in a romantic relationship (Nguyen, Liamputtong, & Murphy, 2006; Thongmixay, et al., 2019). Interestingly, not using a condom often implies trust in a romantic relationship (Hoang, Nguyen, & Duong, 2018).

Factors influencing utilisation of contraception amongst adolescents could be clustered into four groups:

- 1) Personal influence: awareness and [mis]perceptions, financial situation, and fear of side effect and the consequences of unwanted pregnancy and STI/HIV
- 2) Interpersonal influence: partners' support, autonomy and reassurance from reliable sources
- 3) Merchandise: contraceptive effectiveness, price, quality and convenience
- 4) Societal influence: challenges in accessing sexual reproductive health service

In conclusion, adolescents' knowledge and awareness of contraception impact on their attitudes and perceptions, and thus affect their utilisation of contraceptives. In effect, knowledge of contraception is proven to increase the likelihood of contraceptive utilisation (Tesfa & Gedamu, 2018; Adane, Bekele, Melese, Worku, & Netsere, 2020), while misinformation, suggesting the lack of knowledge and awareness, was seemingly a contributor to a negative attitude towards contraceptive utilisation (Ankomah, Anyanti, & Oladosu, 2011).

Chapter 7 Discussion and conclusion

This chapter discusses the findings related to the key research questions, and other issues arose throughout the findings. Many of the publications included in this study explored influencing factors and barriers in accessing contraception or family planning methods, as well as sexual reproductive health services, and other themes beyond the scope of the main objectives. The later parts of this chapter acknowledge the limitations of conducting this review, and provides the conclusions as well as further recommendations.

7.1 Discussion of findings

A comprehensive review of literature regarding adolescents' knowledge, attitude and utilisation of contraception had previously not been carried out in these countries. Therefore, this study reviewed previously published research of the topic, using the following two main questions as a guide to identify the literature: 1) what is the knowledge, attitude and utilisation of contraception among adolescents in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam; and 2) what factors and barriers are there in accessing contraception or family planning and sexual reproductive health services amongst adolescents in the five selected countries.

A narrative review approach was employed to collate information from the focused countries. Nonetheless, this approach has previously been criticised because it does not present how the studies are selected and, accordingly, the process of selecting articles may be subjective (Collins & Fauser, 2005; Cronin, Ryan, & Coughlan, 2008; Paré, Trudel, Jaana, & Kitsiou, 2015). To address this criticism and minimise such selection biases, a systematised approach was employed to obtain data from electronic resources, then presented how the study was selected using the predetermined criterion, and presented the search results, together with a tabulation of the selected publications. As a result of electronic searches from five main health science databases, eight publications were identified, and another eight came from the University of Canterbury's library portal, reference lists, and thesis depository, bringing the total number of the eligible publications to sixteen

7.1.1 Knowledge of a wider range of contraceptive methods and their utilisation remains insufficient

Knowledge and awareness of contraception is crucial in encouraging contraceptive uptake amongst adolescents. Accurate information about contraception and family planning is one of the key determinants of contraceptive utilisation whereas misinformation hinders their use (Ankomah, Anyanti, & Oladosu, 2011). One study found that knowledge of and attitudes toward contraception were strongly associated with contraceptive use and practice (Guzzo & Hayford, 2018). This study further reported that adolescents who have accurate contraceptive knowledge and favourable attitudes toward contraception have long-term impacts on contraceptive efficacy and consistency for 15 years. Furthermore, having an awareness of a wider range of contraceptive methods increased the likelihood of contraceptive utilisation because varied methods could help young people to meet their contraceptive needs (Ross & Stover, 2013).

The overall results from the selected studies suggest that nearly all the participants knew at least one modern contraceptive method. This was confirmed by national reports and surveys, which showed that contraceptive awareness was widespread in the countries under study (Ministry of Health and Sports and ICF, 2017; National Institute of Statistics and ICF, 2015; Lao Statistics Bureau, 2018; National Statistical Office and UNICEF, 2016; General Statistics Office and UNICEF, 2015). Even though many young respondents in this study were found to have an awareness, it did not necessarily mean they had comprehensive knowledge about each method, particularly the hormonal methods. The evidence can be seen in the case of adolescent respondents in Chaiboonruang's study (2018) who showed that they had awareness of injectable contraceptives, but they failed to follow the correct timeframe for the next injection.

Similarly, most young people in this study showed good understanding of condom use. They knew that they should wear a condom before sexual intercourse to prevent sexually transmitted diseases and pregnancy. Several publications of this study also reported that participants knew a condom is more effective than the withdrawal method. Despite these results, some respondents had incomplete information about it. For example, adolescents in Vietnam thought that condoms were only used for preventing HIV/AIDS and that they could not prevent pregnancy, while one respondent in Lao PDR was under the false impression that she could contract an STI from an unhygienic toilet, not because she had engaged in unprotected sex.

Regarding the known methods, the most cited examples were male condoms, oral contraceptive pills (including emergency contraceptive pills) and early withdrawal. The reasons why these methods are more popular were because they are easily accessible without prescription and can be obtained over the counter (UNICEF Thailand, 2016).

As mentioned earlier, the two most common contraceptive choices for adolescents in this study are condoms and the pill, which contrasted with the report on contraceptive choices issued by Track2020 (2020) shown in **Chapter 5**. The pie charts (Figure 18) illustrate that long-acting reversible contraceptives were the most used in Myanmar (implants) and Vietnam (IUDs), while the pill was the most popular in Cambodia, Lao PDR and Thailand. The differences could be due to the Track2020 data including all women of productive age, while this study only includes adolescent participants.

The methods that were not cited by participants in all the selected studies were the Lactational Amenorrhea Method (LAM), female sterilisation, the contraceptive patch and the vaginal ring. This might be because these methods are not adolescents' preferred choices. For instance, LAM and sterilisation may be irrelevant for nulliparous adolescents, and unsuitable for those who still want more children, while certain types of contraceptives are not available in the countries under study. Regarding the sources where young people learn about contraceptives, the results show that they acquired knowledge mainly from their peers, the media, the internet, and health personnel, whilst some studies mentioned the pharmacist in their community as their source of information. The outcomes are similarly described in previous studies from the countries under study (Lao People's Revolutionary Youth Union and United Nations Population Fund, 2014; National Institute of Statistics, 2016; Ministry of Health and Sports, 2017; UNICEF Thailand, 2016; Watanabe, Saruta, & Kato, 2014).

Regarding contraceptive utilisation, the findings suggested that the use of contraceptives amongst adolescents in the selected countries is low- to- moderate. However, it should be noted that the results on knowledge and utilisation provided in the selected publications were both statistical and descriptive. Therefore, the results cannot be compared. However, the descriptive results on the use of contraceptive amongst adolescents seem to align with previous statistics discussed in section 5.2 in **Chapter 5**, which shows low rates of contraceptive use in all countries under study. In terms of consistency of contraceptive use, the types of sexual partners were found to have an impact on adolescents' contraceptive practice. This study found that adolescents engaging with casual partners and in transactional sex are more likely to use condoms. Whilst those having long-term partners are more likely to use the withdrawal method due to mutual respect and trust in their relationships.

However, in some cases, the use of the withdrawal method may have been the result of young women lacking the autonomy and self-confidence to negotiate the use of modern contraceptives. For married adolescents, their husbands hold more power to decide if they

would be allowed to use contraception. It might be because of age differences between the women and their husbands, which could impede their ability to negotiate the use of contraception (Darroch, Woog, Bankole, & Ashford, 2016; Makola, et al., 2019). These barriers may be rooted in the social norms, influenced by religious beliefs in male superiority, as was discussed in **Chapter 3**.

7.1.2 Negative attitudes toward contraceptives influenced by misconceptions and social judgements.

The findings of this review suggest that young people in the focused countries generally have negative attitudes toward contraception. Myths and misinformation regarding contraception and sexual reproductive health services could have strong influences on adolescents' attitudes and perceptions. The theme of fears, doubts and judgement arose throughout the review. These impressions could be seen in the interview results of the publications illustrated in Section **6.2.1**.

Social judgements likely have impacts on adolescents' attitudes towards contraceptive use. Many young people in this study choose to disregard contraceptives because using them could imply that they are engaging in sexual activities. As discussed previously, sex out-of-wedlock remains socially unacceptable, and thus unmarried young people who are sexually active would avoid disclosing their sexual status. Furthermore, the findings of this review reveal that those using contraceptives could be perceived as promiscuous. Similarly, Ochako et al. (2015) found that contraceptive utilisation is perceived to encourage young women to be sexually promiscuous and unfaithful to their partners. Likewise, condoms were deemed inappropriate among married couples because they could be inferred as indicating infidelity, as shown in the report by the Cambodian Ministry of Women's Affairs (2014) stating that condom-free sex implies fidelity and intimacy for long term relationships.

The respondents in many of the selected studies cited fear of side effects and misconceptions about different types of contraceptive methods. An example is seen in one study, which found that one female respondent thought she had to sit upright when her partner ejaculated into her vagina to prevent sperm from getting inside the uterus. Another example is from a study in Lao PDR (Thongmixay, et al., 2019), where respondents mistakenly understood that the pill could prevent STI/HIV whereas condoms could not. Additionally, hormonal contraceptives were believed by many participants to cause serious health damage, including, cancer, haemorrhage, tumours and pregnancy complications, as well as difficulty conceiving in the future. The pill and ECPs were also believed to take longer time to dissolve, and that they could get suspended inside the uterus, which is believed to leave residues in the body.

Apart from this, the respondents thought that Long-Acting Reversible Contraceptives (LARC) were only used for certain groups: for instance, that nulliparous women should not use IUDs and implants. Furthermore, it was feared that implants could wither the arms, that IUDs can damage the uterus, and that they could fall out of the uterus because of heavy lifting. One study mentioned male sterilisation which was believed to turn a man to become gay (Chaiboonruang, 2018). All these negative opinions cited were similarly described in various studies (Ezenwaka, et al., 2020; Govender, Naidoo, & Taylor, 2020; Gueye, Speizer, Corroon, & Okigbo, 2015; Mwaisaka, et al., 2020; Russo, Miller, & Gold, 2013). These myths and misinformation discussed above were disseminated by the community members and elderly who are deemed to be trusted sources and are believed to have more experience. It is not unusual for adolescents to listen and follow the advice from seniors who may impart their misconceptions to the adolescents. In this respect, family planning program intervention should not exclusively target adolescents, but also consider working with the adults and older members of the community.

7.1.3 The lack of sex education affects adolescents' knowledge and attitudes

The myths and misinformation mentioned above could also be a result of the lack of sex education in schools. Despite the review issued by UNESCO Bangkok (2012) reporting that the countries under study incorporate sex education in their curricula, some studies asserted that implementation is still poorly administered (UNICEF Thailand, 2016; Zaw, McNeil, Oo, Liabsuetrakul, & Htay, 2020). The adolescents in this review also stated that the sex education they received in school was superficial and mainly discussed HIV/AIDS, which is similar to the findings in Myanmar (Zaw, McNeil, Oo, Liabsuetrakul, & Htay, 2020). On top of this, it is reported that training in sex education is inadequate for teachers in some of the focused countries (Ministry of Education and UNICEF Thailand, 2016; Sen, 2019). There is also a lack of support and acceptance from society because of the beliefs that teaching or talking about sex will encourage young people to engage in early sexual activity (UNICEF Thailand, 2016; Zaw, McNeil, Oo, Liabsuetrakul, & Htay, 2020; Mealeatey, 2020; Sen, 2019). Because of this opposition, most teachers are hesitant to teach, or even skip the content, while some feel uncomfortable due to the belief that sex is not an appropriate topic to discuss in the school setting (Mealeatey, 2020; Sen, 2019). Under these circumstances, immediate action is needed to tackle the lack of sex education in the countries under study, and thus address the poor knowledge about and negative attitudes toward contraceptive utilisation.

In summary, knowledge, awareness, and attitudes toward contraception are interrelated determinants that can affect the utilisation of contraceptives amongst adolescents. This review has found that there is no consensus in the level of contraceptive knowledge and utilisation in the five countries. Nevertheless, the findings underline the need for comprehensive sexuality

education (CSE) to address the poor knowledge and awareness about family planning methods and sexual reproductive health. Thus, it can dispel myths and misinformation that young people hold and to influence their positive attitudes, while the education could also empower young people to recognise their rights in sexual reproductive health choices.

7.1.4 Influencing factors and barriers to contraceptive utilisation

In this study, the findings reveal several influencing factors and barriers to contraceptive utilisation, which include personal beliefs, interpersonal communication, societal influence, and the perceptions towards contraceptive merchandise. Regarding product-related challenges, young people stated their effectiveness, price, quality and convenience as barriers to contraceptive use. Even though the condom is the most convenient method to obtain, the retail price in dispensaries is often costly. As previously discussed, adolescents still rely on parents' or guardians' incomes. Such reliance limits them in obtaining contraceptives, particularly higher quality ones, which are deemed to be more effective. The results of this study report that condoms could be obtained free of charge in local health facilities. Nonetheless, as adolescents stated in the focus group discussion, they had to go through a sign-in process not only causing inconvenience to themselves, but also possibly a breach of their anonymity.

Societal influences such as support from partners or spouses, family members and friends were found to be another factor affecting contraceptive use, particularly amongst married adolescents, which conforms with several studies (Samandari, Speizer, & O'Connell, 2010; Ankomah, Anyanti, & Oladosu, 2011; Jirapongsuwan, Latt, Siri, & Munsawaengsub, 2016; Lwin, Munsawaengsub, & Nanthamongkokchai, 2013). When adolescents receive support through consultation about different options with people they trust, it could boost their confidence in making decisions and it could alleviate the fear of side effects and doubts.

Despite the importance of the support, it should not interfere with the autonomy of young people, which is another factor contributing to contraceptive use. As described in Section 6.3.3, women's autonomy in decision-making and their ability to negotiate are important factors in increasing the likelihood of contraceptive use, as described in several studies (Hameed, et al., 2014; Rahman, Mostofa, & Hoque, 2014). In the light of this, the outcomes accentuate the need to enhance the support of partners and families. This could be implemented through promotion of communication between spouses or parents (for those who are unmarried) and through sexual health education sessions during community intervention and, potentially, when young people visit the health facilities.

In this review, the fear of side effects was frequently cited as a reason for not using contraceptives. Likewise, a study carried out by Williamson, Parkes, Wight, Petticrew and Hart (2009) indicates positive association between contraceptive non-use and the fear of side effects. The most cited fear reported in this review is the fear of infertility, which is similar to several other studies describing infertility as the major barrier to contraceptive utilisation (Ochako, et al., 2015; Mwaisaka, et al., 2020; Govender, Naidoo, & Taylor, 2020; Russo, Miller, & Gold, 2013; Ezenwaka, et al., 2020). Lacking knowledge and awareness is probably one reason why many young people give way to these fears (Ochako, et al., 2015). Indeed, the findings of the study indicate that inadequate contraceptive knowledge and awareness are significant barriers to contraceptive utilisation. Several studies also document similar results, that having knowledge about contraceptive methods increases the likelihood of accessing family planning services and contraceptive use (Adane, Bekele, Melese, Worku, & Netsere, 2020; Subedi, Jahan, & Baatsen, 2018).

Another factor influencing contraceptive use found in this study is that people who were reassured about valid information regarding family planning methods by health providers were more likely to use contraceptives than those who were not, which is confirmed by various international studies (Ankomah, Anyanti, & Oladosu, 2011; Lwin, Munsawaengsub, & Nanthamongkokchai, 2013; Adane, Bekele, Melese, Worku, & Netsere, 2020; Tumlinson, Pence, Curtis, Marshal, & Speizer, 2015). This is because health providers can help them to assess the advantages and disadvantages of each method and provide information on potential side effects, while it is opportune for adolescents to clarify the information and discuss rumours or myths they have heard about contraceptives. Thus, they can make better informed decisions before starting to use any contraceptive.

Consistent with previous studies, fear of contracting sexually transmitted diseases and HIV/AIDS is an important indicator of contraceptive use, particularly condoms (Ajayi, Ismail, & Akpan, 2019; Wongsawat, Songthap, Pengcha, & Hoyrat, 2020). Some adolescents in the selected studies cited that their decisions to use contraceptives were driven by the fear of unplanned pregnancy. Adolescents' health and socioeconomic condition could indeed be threatened by the incidence of an unplanned pregnancy. Some adolescents may have to give up their education to bear a child, while some others may seek an unsafe abortion, which increases the risk of morbidity and, even worse, mortality. In this study, however, it is interesting to find that this fear of unintended pregnancy is rooted in the notion of being afraid to create burdens for their parents. Traditionally, children are taught that they owe a debt of gratitude to their parents, who gave birth to them (Sa-ngiamsak, 2016). Children are expected to return their gratitude by taking care of their parents when they grow old (Liamputtong, Yimyam, Parisunyakul, Baosoung, & Sansiriphun, 2004; Sa-ngiamsak, 2016). Because of this belief, the adolescents in this study are afraid that if they become pregnant, their parents would inevitably have to help to take care of the grandchildren instead of being taken care of.

In this study, awareness of available services or perceived eligibility to access them are not the only barrier that adolescents encounter, but there are also other barriers, such as the visible location of the facility and suitable service hours, which are also indicated by past studies (Subedi, Jahan, & Baatsen, 2018; Ankomah, Anyanti, & Oladosu, Myths, misinformation, and communication about family planning and contraceptive use in Nigeria, 2011; Zaw, Liabsuetrakul, Htay, & McNeil, 2012). As mentioned, most public health facilities are open only from Monday to Friday and from 9 a.m. to 5 p.m. This schedule overlaps with adolescents' school hours, and as a result, accessing SRH services is more challenging. Although the adolescents in this study did not cite restrictive hospital policies such as the requirement of parental or spousal consent prior to accessing the service (UNFPA, UNESCO, & WHO, 2015), they still faced another obstacle, which is the lack of privacy and having unfavourable experiences with the providers.

The results imply that unfriendly and judgemental attitudes of health providers towards unmarried adolescents using the services are a profound hindrance to encouraging contraceptive utilisation, which is in line with previous studies (Ezenwaka, et al., 2020; Tangmunkongvorakul A. , et al., 2012). As stated in Section **5.3.1**, social disapproval of premarital sex prevails, that it could affect the attitudes of some health providers towards unmarried young people when they come to use the service. In consideration of that, adolescents may feel uncomfortable when visiting the facility to obtain information about SRH. In addition, the lack of privacy and anonymity in sexual reproductive health facilities often impedes adolescents from using the service. Young people are afraid that using the SRH service would reveal their sexual status, and they might be punished if their parents found out.

This reason was also identified by a previous study from one of the focus countries (Tangmunkongvorakul, et al., 2012). The results lead to the suggestion that privacy and confidentiality should be assured by the providers as this could also lead to good relationships between provider and user, which is among the keys to maintaining consistent use amongst users and encouraging the use for new users (Sychareun, et al., 2018).

7.2 Limitations of the Study

Throughout the period of conducting this research, many challenges were encountered. The first problem was the inconsistency of available data during the review of the features of each country, because secondary data were retrieved from different international databases such as World Bank, UNFPA, UNESCO, WHO and other databases. This could be seen from the missing available data (variables) from each year in each country. For instance, the data for unmet needs in Thailand were available only for 2012 and 2016, while the data for other countries under study were available from 2000 to 2016. The incomplete dataset made the comparison between trends of some variables more challenging.

Another challenge found was the availability of eligible publications. An online search using the keywords did not guarantee the results. To acquire a larger body of data, full text reviews were needed. In some studies, although their topics were mainly focused on factors influencing contraceptive use of the focused population, they might also include data on knowledge and awareness. Some other studies might include attitudes and practices in their research, even though they did not mention these as the aim of their research. Potential publications need to be cautiously identified by reading all sections which prolonged the selection process. Moreover, all the selected studies are English-only publications. This may lead to valuable missing data from the countries under study where journals were only published in local languages. The inclusion of all research methods (including, qualitative, quantitative or mixed methods) was also challenging for comparing and contrasting. In other words, it was not feasible to compare the percentages of contraceptive knowledge and utilisation from quantitative study with descriptive results from qualitative study.

Two of the publications reviewed had extended their population to include those over 24 years old. This may limit the comparisons in those studies. The two studies are Samandari and O'Connell (2011) and Sychareun, Hansana, Phengsavanh and Phongsavan (2013). Due to the inclusion of all available studies regardless of marital status and sex, it resulted in the diversity of study populations and settings. For instance, some studies were carried out among university students, while the others were among adolescent mothers who might have dropped out of school. Difference in adolescent's characteristics could misrepresent a certain group of adolescents in all five countries. As a result, the research findings might not represent general

knowledge, attitudes and utilisation of contraception of specific adolescent populations. Despite the mixture of study populations' characteristics, it is important to note that this review did not focus on association between contraceptive use and characteristics such as income, education, rural-urban status, age or lack thereof.

There was also a personal challenge worth mentioning during the thesis planning. The researcher originally planned to conduct a study and collect data in her home country (Lao PDR). However, due to the pandemic (COVID-19) that led to global restrictions, the research methodology needed an immediate modification as well as reconsidering study location to match a given timeframe and feasibility in the uncertain time. The researcher and her supervisory team had thus agreed upon expanding the countries of study and using a narrative literature review as the adjusted methodology.

7.3 Conclusions

The review of literature reiterated the importance of family planning programmes in public health development. The purpose of family planning programmes is to enhance reproductive health including healthy pregnancy through contraceptives use, which helps to space, limit and prevent pregnancy. Also, the program is the path to promote maternal and child health, promote sexual reproductive health and rights, reduce poverty, enhance economics, and support sustainable development goals. This review also highlighted the significance of adolescent sexual reproductive health. It is widely documented that adolescence is a time of rapid physical and mental development and it is a vital stage in learning about puberty and sexual reproductive health. As the proportions of adolescent populations in the selected countries are steadily growing, attention needs to be given to their sexual reproductive health, particularly, promotion of their knowledge and awareness, as well as the services available to them.

This study highlighted knowledge, attitudes and utilisation of contraception amongst adolescents in Cambodia, Lao PDR, Myanmar, Thailand and Vietnam. In general, adolescents had good awareness of some modern contraceptive methods, particularly condoms and contraceptive pills. Nonetheless, having awareness does not mean adolescents have complete knowledge about contraceptives, which in turn, does not increase the use of contraceptives. Adolescents in this study believe in a variety of myths and hold misinformation about different methods. These beliefs and misconceptions influenced their attitudes toward contraceptive use, which tends towards unfavourable attitudes. The use of contraceptives amongst adolescents in the selected countries was found to be below average, which is due to inadequate knowledge and the lack of sex education.

To make sense of the above findings, the study also explored the factors and barriers contributing to using and not using contraceptives. The main barriers to obtaining contraceptives and accessing sexual reproductive health services are as follows: the ineffectiveness and poor quality of the contraceptives; lacking awareness of available services and eligibility to use the service; poor contraceptive knowledge which leads to myths and misconceptions; and negative experiences from visiting health facilities. Adolescents also encountered more challenges in accessing contraceptives than people in older age groups or those who are married. To repeat what was expressed earlier, due to premarital sex not being widely acceptable in the countries under study, adolescents would feel embarrassed to seek contraceptive advice. They are terrified that their sexual status would be exposed, as public health facilities are believed to lack privacy. Although hospital policy may not be a barrier for young people, as it does not hinder them from seeking help in the facilities, they still experience judgemental attitudes from health providers, which discourage them from obtaining contraceptive information and use the services. In contrast, having valid information regarding contraceptive methods, and support from family and community, as well as health providers, are the key influencing factors in contraceptive use. Other determinant factors motivating young people in the focused countries to use contraceptives are the fear of contracting sexually transmitted diseases and the fear of unintended pregnancy which leads to concern for burdening parents.

In conclusion, increasing adolescents' comprehensive knowledge about various types of contraceptives would increase the likelihood of contraceptive utilisation, either in the short or long term. Consequently, adolescents could avoid unintended pregnancy, which are likely to result in abortions. Whether or not an abortion is carried out in a safe setting, it could affect both the physical and mental health and welfare of adolescents. Furthermore, they could protect themselves from contracting sexually transmitted diseases, which are other significant issues they may face. For adolescents who decide to bear a child, increasing the scope of family planning promotion would help adolescent mothers. This would help them to be informed about different choices that can help to space and limit their pregnancy, which correspondingly contributes to the general health and wellbeing of both mother and child, as well as mitigating financial hardship during childrearing.

7.4 Recommendations

7.4.1 The need for youth-friendly clinics

The results of this study highlights not only the inadequate coverage of youth-friendly health clinics in the focused countries, but also the poorly-maintained facilities and limited services. Based on the findings of this study, it is recommended that the Ministry of Health in each country under study, in partnership with local and international development partners, who are the key policymakers, should consider a re-arrangement of the SRH facilities. For example, a counselling room should be a separate unit to maintain privacy and anonymity. Adjustment of the service hours of the facility to match young people's convenient time may need to be taken into account. Also, since adolescents increasingly rely on social media, virtual counselling through video call such as Skype or Zoom may need to be considered as another option in future planning. Ethical guidelines to maintain the confidentiality of clients is also needed. Hierarchical processes in the service, such as signing their name to get free condoms or pills should be minimised, as well as legal and policy barriers, such as consent from parents or spouses for the service.

Furthermore, health providers need specific training regarding youth-friendly counselling to work with young people effectively. Training could be helpful to identify the different sexual and reproductive health needs of both married and unmarried adolescents. By doing so, the providers could sympathise with adolescents' difficulties, which consequently lead to non-judgemental attitudes in providing information and services to these populations. Consequently, these interventions could ensure that adolescents would experience a friendly environment and service.

In the case where some sexual reproductive health services are not provided, primary healthcare centres should implement a referral system. As youth-friendly clinics are not yet covered nationwide, this system could facilitate adolescents who are not aware of available services. Additionally, the policymakers should also provide funds for the advertisement of existing youth friendly clinics and provide a full range of available contraceptive options in the facilities. In addition, funding for health promotion schemes should be provided to communicate sexual reproductive health information through mass media and within primary healthcare centres, or even local pharmacies.

7.4.2 The needs for sex education and adapting to a digital education era.

The study underscores the serious needs of sex education to take place in the countries under study to enhance contraceptive uptake and continuation. Previous research recommended comprehensive sex education as the most effective approach (Chandra-Mouli, Lane, & Wong, 2015; Chandra-Mouli, McCarraher, Phillips, Williamson, & Hainsworth, 2014), but it has not been adequately implemented, particularly in low-to-middle income countries. Likewise, although some of the focused countries stated that they have incorporated sex education in their education systems, the implementation is still limited, as reported by teachers and students. For this reason, governments need to make concerted efforts to accelerate these agendas.

For the selected countries that have integrated sex education in their education systems, it is recommended that training and refresher training for teachers should be carried out nationwide. The Ministry of Health and Ministry of Education of each country under study may need to collaborate to create and revise culturally appropriate content of the sex education that has been incorporated into the national curriculums. Evaluation on the effectiveness should also be conducted to identify the gaps in adolescents' needs and to address cultural appropriateness issues raised by parents and teachers.

Since family and peers are significant sources of contraceptive information, intervention engaging community members and peer education should take place. Female adolescents should be empowered in negotiation and decision-making skills. This could be implemented in schools and channelled through peer discussion activities, plays, quizzes and other school events. In this study, social media has been frequently reported as a source of sexual reproductive health information amongst young people. In the same instance, several efforts to disseminate SRH information have begun in the countries under study via different platforms, such as websites, mobile applications and social media such as Facebook, Twitter, Instagram, etc. (UNICEF, 2019) in order to disseminate health information and to update news. On this account, governmental and non-governmental organisations could use these platforms to organise sexuality education both virtually and in person. This approach could improve people's awareness about contraceptive methods, create positive impressions of such methods as well as disseminate appropriate sexual reproductive health messages to young people.

7.4.3 Future studies

In this study, knowledge is not consistently defined in each publication. It is suggested that future research should have a clear definition of contraceptive knowledge and awareness, even though these terms could be used interchangeably. In the context of the KAP model, there is a gap in how knowledge of contraception is assessed. Some studies used the question, “Have you ever heard of contraceptives?” to gain data on contraceptive knowledge, but this is merely asking whether or not the respondents are aware of its existence. The question should probe their practical knowledge, for instance “What is a condom used for, or what are the benefits of using condoms? – Could you describe how to use oral contraceptive pills or emergency contraceptive pills? – Do you know any side effects of these methods? – or which of these side effects of oral contraceptive pills are true?” Such questions may be more useful to assess respondents’ understanding of contraception and obtain both quantitative and qualitative data.

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Appendices

Appendix 1

National Strategy for Reproductive and Sexual Health in Cambodia 2017 -2020

Goals	Sub-goals and Indicators
1. Increase quality and availability of FP services	<p>1.1. Increase capacity of service providers for FP counselling and service provision through training, on-site coaching and supportive supervision.</p> <p>1.2. Develop and implement innovative strategies to improve awareness and utilization of FP services in poor performing locations, and amongst highest need groups (for instance, 15-24 years old, 40-49 years old, unmarried, poorest, least educated) and vulnerable groups (including entertainment workers (EWs), garment factory workers, construction workers, farm workers, minorities and persons with disabilities)</p> <p>1.2.1. Offer FP services on weekends</p> <p>1.2.2. Use CBD/mobile services for hard-to-reach population</p> <p>1.3. Rationalize existing Community Based Distribution (CBD) coverage, and increase coverage in remote and hard to reach locations</p>
2. Increase availability and utilization of long-term / permanent FP methods	<p>2.1. All Referral Hospitals should be able to provide at least 3 long-term / permanent FP methods</p> <p>2.1.1. Create a separate section for FP at RH</p> <p>2.1.2. Increase capacity of RH staff to provide counselling and service provision for long-term methods through training, coaching, and supportive supervision</p> <p>2.2. All HCs should be able to provide at least 1 long-term FP method (IUD and/or implants)</p> <p>2.2.1. Increase capacity of HC staff to provide counselling and service provision for long-term methods through training, coaching and supportive supervision</p> <p>2.3. Review comparative pricing of contraceptives (LAPM vs. short term methods) in public sector health facilities and revise if necessary</p> <p>2.4. Produce and disseminate FP IEC materials</p> <p>2.5. Increase male involvement in IEC and behaviour change interventions</p> <p>2.6. Consider expanding CBD activities to include promotion of LAPM and referral to appropriate health facilities.</p>

3. Increase availability and utilization of post-partum FP services (interventions related to post abortion FP can be found in the safe abortion services section below)	<p>3.1. Reinforce implementation of updated birth spacing guidelines, which include immediate postpartum short-and long-term family planning</p> <p>3.1.1. Use Midwifery Coordination Alliance Team (MCAT) meetings to present/discuss quality birth spacing services, information and counselling</p> <p>3.2. Ensure FP commodities available in maternity wards.</p> <p>3.3. Request that HEF allow payment for immediate post-partum FP as a separate service (also included in health financing interventions under Objective two)</p>
4. Ensure FP commodity security	<p>4.1. Finalize and Disseminate 2016 RH commodity forecasting and costing report and ensure contraceptive supply to the public sector.</p> <p>4.2. Use 2016 RH commodity forecasting and costing report to advocate for government financial commitments for RH commodities 2017-2020 and onward.</p> <p>4.3. Strengthen function of commodity security working group.</p> <p>4.4. Strengthen Logistics Management Information System (LMIS)</p>
5. Strengthen public-private partnership to ensure quality FP service provision, and timely and accurate reporting from the private sector	<p>5.1. Strengthen partnerships with private sector providers through periodic meetings</p> <p>5.2. Advocate that new law on regulation of health care facilities and services includes:</p> <p>5.2.1. Provision that all facilities/services must be in compliance with MOH policies, guidelines and protocols</p> <p>5.2.2. System for routine reporting and quality assurance of private health facilities</p>
6. Reduce traditional family planning usage	<p>6.1. Increase knowledge that traditional FP methods (particularly withdrawal) are not effective or reliable, and reduce fears and misinformation about modern contraceptives</p> <p>6.1.1. Strengthen FP counselling skills of public and private sector providers through training, coaching and supportive supervision</p> <p>6.1.2. Awareness raising or campaign using mass media</p>

Note. Data are from Cambodian Ministry of Health (2017)

Appendix 2

Lao PDR's Strategy and Action Plan for Integrated Service on Reproductive, Maternal, New-born and Child Health 2016 – 2025

Strategic Objectives	Specific Objectives
1. Reproductive Health - Increase utility and acceptance of quality reproductive health information and services among all women and men of reproductive age, including adolescents, young people, and those living in poor or rural areas, regardless of marital status.	<ul style="list-style-type: none"> By 2025, increase the contraceptive prevalence rate (CPR) for women of reproductive age (all methods) to 70%, and reduce the unmet need for contraception to 8%. Increase availability of RH information and services that are responsive to the needs of young people
2. Safe Delivery - Increase use and quality of pregnancy and delivery care particularly for those living in poor and rural areas	<ul style="list-style-type: none"> By 2025, 80% of pregnant women should receive at least 4 quality ANC checks and deliver with a skilled birth attendant, and 70% of pregnant women should deliver in a health facility and receive PNC within 2 days of birth. By 2025, 70% of pregnant women attending ANC should receive provider-initiated counselling and testing (PICT); 95% of HIV positive pregnant women should receive antiretroviral medicines and 100% of their infants should receive ARV drugs.
3. Emergency obstetric care - improve quality and use of emergency obstetric care (EmOC) in better functioning systems	<ul style="list-style-type: none"> Increase quality, availability and accessibility of basic and comprehensive emergency obstetric care including safe abortion care. Strengthen the maternal death surveillance and response system, and ensure action is taken based on findings.
4. New-born Care - All new-borns receive high quality EENC	<ul style="list-style-type: none"> By 2025, at least 55% of facilities where births take place are implementing EENC
5. Child curative care - All children in need of care receive quality curative care at all levels, including community	<ul style="list-style-type: none"> By 2025, increase proportion of children with diarrhoea treated with oral rehydration therapy (ORT), and children with suspect pneumonia treated with antibiotics to 95%. By 2025, improve early detection and management of severe acute malnutrition (in target areas)
6. Immunization - All children under 5 years old are protected from vaccine preventable diseases through immunization	<ul style="list-style-type: none"> By 2025, 95% of one-year old children are fully immunized and 90% of pregnant women are vaccinated for TT2.

7. Nutrition - Improve nutrition status among mothers, young children and communities	<ul style="list-style-type: none"> ▪ By 2025, ensure >95% of children under 5, pregnant/lactating women, and women of reproductive age (WRA) receive micronutrient supplementation and deworming. ▪ By 2025, children under 2, pregnant/lactating women and caregivers practice adequate infant and young childcare & feeding practices. ▪ Improved consumption of safe, nutritious and diverse food by women, young children and adolescent girls.
8. Human Resources - Increase availability and accessibility of strengthened human resources for RMNCH.	<ul style="list-style-type: none"> ▪ By 2025, the RMNCH workforce will be strengthened, and all health centres will have at least 1 midwife.
9. Health Financing - Increase financial accessibility of RMNCH services.	<ul style="list-style-type: none"> ▪ MCH/under five services* are free of charge to users nationwide (*as defined in the free MCH scheme).
10. Health Information - Strengthen collection, analysis and use of essential RMNCH data and information	<ul style="list-style-type: none"> ▪ By 2025, >95% of public health facilities can provide timely and complete statistical reports (that include essential RMNCH information) and that information is used at provincial and district levels for planning and decision making.
11. Medical Supplies, Commodities and Equipment - Ensure the availability of essential RMNCH commodities (drugs and equipment).	<ul style="list-style-type: none"> ▪ By 2025, strengthen RMNCH supply chain management and reduce the proportion of facilities reporting stock outs of essential RMNCH drugs.

Note. Data are from Lao's PDR Ministry of Health (2016)

Appendix 3

Myanmar Five-Year Strategic Plan for Reproductive Health 2014-2018

Overarching goals	
<p>I. To reduce rates of maternal, perinatal and neonatal morbidity and mortality by increasing equitable access to maternal and new-born services; improving quality, efficiency and effectiveness of service delivery at all levels' and improving responsiveness to the client needs</p> <p>II. To reduce unmet need for contraception, unplanned births as well as socio-economic disparities in access to and use of contraception</p> <p>III. To strengthen management of miscarriage of post-abortion care (PAC) as an integral component of comprehensive reproductive health services.</p> <p>IV. To expand access to RTI/STI/HIV services within RH programmes, reduce transmission of RTI/STI/HIV including prevention of mother to child transmission of syphilis and HIV</p> <p>V. To expand reproductive health information and service for adolescents and youth</p> <p>VI. To increase services for screening and treatment of cervical cancer; and</p> <p>VII. To support access to investigation and management of the infertile couple</p>	
Core elements in RH intervention	Description of intervention in national and sub-national levels
Pregnancy, delivery, postnatal and new-born care	<ul style="list-style-type: none"> Information and advice/counselling on self-care, nutrition, breastfeeding, care during pregnancy, labour, and postnatal period and danger signs during the same periods, birth plans, and emergency preparedness. Support for routine care and follow up visits and timely care-seeking for mother and baby Community-based new-born care, especially in hard-to-reach areas. Kangaroo mother cares as required Promotion and support for early initiation and exclusive breastfeeding and immunisation Establish referral criteria and mechanism to health care or township health facility. Feedback provided from health centre or township health facility including information and support follow-up Confirmation of pregnancy Monitoring of progress of pregnancy and assessment of maternal and foetal wellbeing including nutritional status Detection of problems complicating pregnancy i.e. anaemia, hypertensive disorders, bleeding, mal-presentations and multiple pregnancy Tetanus immunisation, anaemia prevention and control (iron and folic acid supplement) Syphilis testing and treatment (both woman and spouse/partners) Treatment of mild to moderate pregnancy complications (anaemia, urinary tract infection, vaginal infection)

	<ul style="list-style-type: none"> ▪ Pre-referral treatment of severe complications (pre-eclampsia, eclampsia, bleeding, infection, preterm, pre-labour, and rupture of membranes) ▪ HIV counselling and testing ▪ Rapid diagnostic tests, anti-malarial treatment and promotion of insecticide treat nets
Birth spacing / family planning	<ul style="list-style-type: none"> ▪ Information and advice on birth spacing ▪ Provision of condoms and oral pills ▪ Increase awareness on benefits of safe sex, birth spacing starting from pre-pregnancy period, during pregnancy and after childbirth ▪ Counselling and provision of contraceptive methods including emergency contraception ▪ Dual protection: female and male condoms and other contraceptives
Miscarriage and Post-abortion care	<ul style="list-style-type: none"> ▪ Information and advice/counselling on birth spacing ▪ Symptoms and signs of miscarriage and dangers of unsafe abortion ▪ Diagnosis of miscarriage, post-abortion complications, stabilisation and referral ▪ Referral mechanisms for timely treatment of miscarriage/abortion-related complications ▪ Post-abortion counselling and services (psycho-social support and contraception/birth spacing as appropriate)
RTI / STI / HIV	<ul style="list-style-type: none"> ▪ Information and advice/counselling on STI and HIV and safe sexual behaviour ▪ Syndromic management of RTIs/STIs ▪ HIV counselling and testing ▪ Condom promotion and provision
Adolescents and Youth RH	<ul style="list-style-type: none"> ▪ Information and advice/counselling and peer education on safe sexual behaviour, prevention of unwanted pregnancy and STI/HIV, RH commodities, nutrition and safe motherhood ▪ Peer education and outreach activities in the catchment area according to national guidelines ▪ Youth-friendly RH services and/or RH service delivery corner for adolescents and youth in the health facilities with provision of educational materials, supplies and equipment and RH commodities
Other elements of RH	<ul style="list-style-type: none"> ▪ Promote male involvement in safe motherhood, responsible parenthood, birth spacing and RTI/STI/HIV interventions ▪ Awareness of signs of gender-based violence (GBV), assessment, immediate response and referral ▪ Information and advice on breast and cervical cancer ▪ Identification of initial needs of infertile couple and referral ▪ Support persons living with disability to access RH services

Note. Data are from Ministry of Health Myanmar (2014),

Appendix 4

Thailand National Reproductive Health Development Policy and Strategy (2017-2026) on the Promotion of Quality Birth and Growth

Goals	Indicators
Goal 1: Maintain the TFR at a level not lower than 1.6	1.1. There is an increase in voluntary births to replace the population <ul style="list-style-type: none"> The number of births is not fewer than 700,000 per year. The TFR does not fall below 1.6. 7.1.3 Births to women aged 20-34 years.
Goal 2: Ensure that every pregnancy is planned, with parents who are prepared, starting from before the pregnancy, as well as the provision of fertility assistance to couples wanting to have a child	2.1. Every birth is well prepared for <ul style="list-style-type: none"> Percentage of women aged 20-24 years who started living with their husband/partner when they were under the age of 18 The adolescent birth rate (10-14 years and 15-19 years) Percentage of women aged 15-49 years who use contraception and are satisfied users of modern contraception Percentage of pregnancies that are planned
Goal 3: Promote safe motherhood, postpartum care, and childrearing in an environment that is suitable for healthy growth and appropriate development, one which will provide optimal learning and education opportunities for the child	3.1 Healthy new-born and growth with quality <ul style="list-style-type: none"> Maternal maternity ratio Neonatal mortality rate Percentage of low-birth-weight infants Percentage of children aged 0-5 years who have an appropriate level of growth and development for their age Percentage of children aged 0-5 years who have an appropriate height for their age.

Note. Data from Ministry of Public Health Thailand (2016)

Appendix 5

Vietnam's Population Strategy 2030

Goals	Indicators
Goal 1: Maintain firmly the replacement fertility, reduce fertility gap between regions and subjects	<ul style="list-style-type: none"> ▪ To firmly maintain the replacement fertility level (with an average of 2.1 children per woman of reproductive age), a population of 104 million ▪ Reduce 50% of fertility gap between rural and urban areas, mountainous areas and plains; 50% of provinces will have replacement fertility ▪ All women of childbearing age have convenient access to modern contraceptives, prevention of infertility and assisted reproduction ▪ Reduce 2/3 of adolescents and young people with unwanted pregnancies.
Goal 2: Protect and develop the population of ethnic minorities of less than 10,000 people, especially ethnic minorities with a very small risk of decline in race	<ul style="list-style-type: none"> ▪ Maintain the population growth rate of ethnic minorities under 10,000 people higher than the national average. ▪ Basically, prevent child marriage and inbreeding in ethnic minority areas. ▪ To ensure that the growth rate of indicators reflecting the quality of the population of ethnic minorities under 10,000 people is higher than the national average.
Goal 3: Bring the sex ratio at birth to the natural balance, strive to maintain the age structure at a reasonable level	<ul style="list-style-type: none"> ▪ Sex ratio at birth under 109 boys for every 100 girls born ▪ The percentage of children under 15 years old reaches about 22%, the proportion of elderly people aged 65 and over reaches about 11%, the general dependency rate is about 49%.
Goal 4: Improve the quality of the population	<ul style="list-style-type: none"> ▪ The rate of young couples being consulted and examined by health providers before marriage is 90% ▪ Reduce 50% of married couples, reduce 60% of inbred marriages ▪ 70% of pregnant women will be screened for at least 4 most common congenital diseases ▪ 90% of new-borns will be screened for at least the 5 most common congenital diseases ▪ Average life expectancy reaches 75 years, of which the healthy lifetime reaches at least 68 years ▪ The height of Vietnamese people 18 years old for men will reach 168.5 cm and females reach 157.5 cm ▪ The Human Development Index (HDI) is among the top 4 countries in Southeast Asia

Goal 5: Promote a reasonable population distribution and ensure national defence and security	<ul style="list-style-type: none"> ▪ Promote urbanization, bringing the rate of urban population to over 45% ▪ Continue to arrange and arrange the population appropriately in the border areas, islands and extremely difficult areas ▪ Ensure that migrants have adequate and equitable access to basic social services.
Goal 6: Complete the construction and operation of the national database on population, promote the integration of population factors into the formulation and implementation of socio-economic development plans	<ul style="list-style-type: none"> ▪ 100% of the population is registered and managed in the national database of population uniformly and shared on a national scale ▪ 100% of sectors, fields and localities will use population specialized data to formulate socio-economic development strategies, plans, programs and projects.
Goal 7: Maximize the advantages of the golden population structure; create a strong motivation for the country's rapid and sustainable development	<ul style="list-style-type: none"> ▪ Continuing to implement well, aiming to achieve higher goals of education, training, labour, employment, labour export, attracting foreign direct investment; research and develop strategies and programs in the above areas for the period of 2021 - 2030 with the goal of maximizing the number of jobs, raising the rate of trained labour and improving job quality. ▪ Continuing to implement well, aiming to achieve higher goals of strategies and programs on health care (including reproductive health care, occupational safety and health, food safety) now available; research and develop strategies and programs in the above areas for the period of 2021 - 2030 with the goal of ensuring that all employees are provided with good health.
Goal 8: Adapt to population aging, promote health care for the elderly	<ul style="list-style-type: none"> ▪ At least 50% of communes and wards meet the environment-friendly criteria for the elderly. ▪ About 70% of elderly people directly involved in production and business to increase income and reduce poverty need to be guided in production and business, support for production means, technology transfer and product consumption, borrow capital for production development. ▪ 100% of the elderly have health insurance cards, are managed health, medical examination and treatment, home care, community, intensive care facilities.

Note. Data are from Ministry of Industry and Trade (2020)

Appendix 6

Full List of Family Planning Methods

Short-acting Contraceptive Methods		
	Description	Features
Oral contraceptive pills	<p>The method is comprised of three main subcategories:</p> <ol style="list-style-type: none"> 1) <i>Combined oral contraceptive (COC)</i> pills which contain low doses of both oestrogen and progestin 2) <i>Progestin-only pills (POPs)</i> containing only progestin 3) <i>Emergency contraceptive pills (ECPs)</i>. Several types of pills can be used for emergency contraception: Special ECP products, including ulipristal acetate (UPA) and ECPs containing levonorgestrel and Progestin-only pills (POPs) with levonorgestrel or norgestrel; Combined oral contraceptives (COCs) with Ethinyloestradiol and either levonorgestrel or norgestrel. 	<p>Combined oral contraceptive (COC) pills</p> <ul style="list-style-type: none"> ▪ Effective and reversible without delay. ▪ Take one pill every day and start new packs on time for greatest effectiveness ▪ Unexpected bleeding or spotting may occur, especially at first. Not harmful. Monthly bleeding becomes lighter and more regular after a few months. ▪ Some women have mild headaches, weight change, upset stomach, especially at first. These often go away. ▪ Safe for nearly every woman. Serious complications are infrequent. ▪ Can be used at any age and whether or not a woman has had children. ▪ Help prevent menstrual cramps, heavy bleeding, anaemia (low blood iron), and other conditions. <p>Progestin-only pills (POPs)</p> <ul style="list-style-type: none"> ▪ The right choice for breastfeeding mothers who want pills because it contains only progestin. ▪ Very effective during breastfeeding and reversible without delay. ▪ It can be used by women who have medical conditions that preclude safe use of oestrogen-containing contraceptive ▪ Take one pill every day for greatest effectiveness. ▪ If not breastfeeding, spotting and unexpected light bleeding are common. ▪ Not harmful.

		<p>Emergency contraceptive pills (ECPs)</p> <ul style="list-style-type: none"> ▪ Effective and safe. ▪ Normally are taken after unprotected intercourse to prevent pregnancy. ▪ Help prevent pregnancy when taken within 5 days after unprotected sex or a mistake with a family planning method. ▪ Safe for all women. ▪ They do not disrupt pregnancy or harm the baby if a woman is already pregnant. ▪ Regular family planning methods are more effective. Please consider starting another method now.
Injectable contraceptives	<p>An injection containing two types of combined hormones: progestin and oestrogen, which are natural hormones, progesterone and oestrogen, in a woman's body.</p>	<ul style="list-style-type: none"> ▪ Injecting monthly to women the upper arm, the buttocks or outer thigh as preferred by women. ▪ The injection could be every 3, 2 or 1 months depends on each type ▪ May be able to get injections outside the clinic, in the community. ▪ Spotting and irregular bleeding often occur in the first several months, then usually monthly bleeding stops. Gradual weight gain, mild headaches. Not harmful. ▪ Private. Others cannot tell that a woman is using it. ▪ Can be used at any age and whether or not a woman has had children. ▪ When injections stop, a woman can become pregnant again. After 3-month injections, it may take a few more months. ▪ Safe during breastfeeding, beginning 6 weeks after childbirth.
Barrier method	<p>These include the contraceptive patch, vaginal ring, male and female condoms, and diaphragm with spermicide</p>	<ul style="list-style-type: none"> ▪ Help prevent pregnancy and some sexually transmitted infections (STIs), including HIV/AIDS, when used correctly every time. ▪ For protection from STIs/HIV, some couples use condoms along with other family planning methods. ▪ Easy to use with a little practice.

		<ul style="list-style-type: none"> ▪ Effective if used correctly every time. Often, they are not used every time, however. ▪ Some people object that condoms interrupt sex, reduce sensation, or embarrass them. Talking with a partner can help. ▪ Woman places diaphragm deep in the vagina each time before sex. Can do this ahead of time. ▪ Usually, a woman must have an internal examination to get diaphragm of the correct size. ▪ Bladder infection is more common
Fertility Aware-ness Method	<p>This includes calendar-based methods, such as the calendar rhythm method and the Standard Days Method® (SDM); or symptoms-based methods, such as the Two-Day Method®, basal body temperature method, ovulation method; and the symptom-thermal method.</p>	<ul style="list-style-type: none"> ▪ The SDM and the Two-Day Method® are the most common fertility awareness methods. ▪ A woman learns to tell the fertile time of her monthly cycle so that she can abstain from sexual intercourse or use a barrier method such as condom on those days. ▪ Can be effective if used correctly. Usually only somewhat effective, however. ▪ Requires partner's cooperation ▪ No physical side effects ▪ Certain methods may be hard to use during fever or vaginal infection, after childbirth, or while breastfeeding
LAMs	<p>The Lactational Amenorrhea Method (LAM) method is technically based on breastfeeding. LAM works primarily by preventing the release of eggs from the ovaries (ovulation). Frequent nipple stimulation during breastfeeding temporarily prevents the release of the natural hormones that cause ovulation.</p>	<ul style="list-style-type: none"> ▪ A family planning method based on fully or nearly fully breastfeeding, for up to 6 months after childbirth. ▪ A breastfeeding woman uses LAM when: <ul style="list-style-type: none"> ○ Her baby gets little or no food or drink except breast milk, and she breastfeeds often, both day and night, and ○ Monthly bleeding has not returned, and ○ Her baby is less than 6 months old. ▪ Before she can no longer use LAM, a woman should plan for another method ▪ A mother can use LAM effectively if all three of the following criteria are met: menstrual bleeding has not returned; she is fully or nearly fully breastfeeding; her baby is less than six months old

Long-acting Contraceptive Methods		
	Description	Features
Implants	<p>Implants are small, flexible rods or capsules that contain progestin and are placed under the skin of the upper arm. All implants slowly release a progestin. A trained care provider is required to insert and to remove the rods.</p>	<ul style="list-style-type: none"> ▪ Little to do once implants are in place. ▪ Very effective for 3 to 5 years, depending on which implant. ▪ Can be used at any age and whether or not a woman has had children. ▪ A woman can have a trained provider take out the implants at any time. Then she can become pregnant with no delay. ▪ Unexpected light bleeding or spotting may occur, or monthly bleeding may stop. Not harmful. ▪ Safe during breastfeeding.
Intrauterine Devices (IUDs)	<p>The IUD, a contraceptive device that is small, flexible with either copper or hormone, inserted into the woman's uterus.</p> <p>There are two types of IUDs available: Copper-IUD which works predominantly by preventing fertilization and LNG-IUD (Hormonal IUDs) that releases a small amount of progestin levonorgestrel each day.</p>	<ul style="list-style-type: none"> ▪ Very effective, reversible, long-term. Copper TCu-380A IUD can be used at least 12 years. Hormonal LNG-IUD can be used for 3 or 5 years. ▪ Can be inserted right after childbirth, as well as at other times. ▪ Require a trained provider to insert and remove the IUD ▪ Some pain during insertion. With copper IUD, monthly bleeding may be heavier and longer, especially at first. With LNG-IUD, no heavier bleeding and helps prevent anaemia (low blood iron). ▪ Serious complications are rare. Pelvic infection occasionally occurs if a woman has certain sexually transmitted infections when the IUD is inserted. ▪ Can come out on its own, especially at first. ▪ A woman can become pregnant with no delay after the IUD is removed.

Sterilisation

This method is permanent for men (vasectomy) or women (tubectomy). Due to the nature of irreversibility, the couples must be well informed and certain in their decision of having no more children. Sterilization is done as an out-patient procedure.

Tubectomy

- Meant to be permanent. For women who are sure that they will not want more children. Think carefully before deciding.
- Very effective (but not 100% effective).
- Involves physical exam and safe, simple surgery. The woman usually stays awake. Pain is blocked.
- Pain and swelling can last a few days after procedure. Serious complications are rare.
- No long-term side effects. No effect on sexual ability or feelings.
- Can be done right after childbirth, as well as at other times.

Vasectomy

- Use another method for the first 3 months, until the vasectomy starts to work.
- Very effective after 3 months (but not 100% effective).
- Safe, simple, convenient surgery. Done in a few minutes. Pain is blocked.
- Pain, swelling, or bruising can last a few days. A few men have lasting pain.
- No effect on sexual ability or feelings.

Note. Data are from World Health Organization (2018)